

APRIL/FY06

ROCKY MOUNTAIN ARSENAL

Colorado

**Army Defense Environmental
Restoration Program
Installation Action Plan**

Public Version

Final 8 August 2006

Table of Contents

Table of Contents	1
Statement of Purpose	3
Acronyms and Abbreviations	4
 Installation Information	 7
Cleanup Program Summary	9
 IRP Program	 12
Summary	13
Contamination Assessment	14
Transfer Summary	16
Previous Studies	18
IRP Active Sites	86
A-A Basin A/Basin A Plume	87
A-S36BR Basin A/Section 36 Bedrock Ridge Plumes	88
A-SPN Basin A/South Plants North Plume	89
CERCLA-LW CERCLA Liquid WWT Plant	90
CSA-1A Disposal Trenches – Shell Trenches	91
CSA-1C Disposal Trenches – Complex Trenches	92
ELF Enhanced Hazardous Waste Landfill	93
FWASTEPILE Basin F Wastepile	94
HWL Hazardous Waste Landfill	95
N-CF North/Basins C&F Plume	96
N-NP North/North Plants Plume	97
NCSA-1A Basin A	98
NCSA-1B Lime Basins – Settling Basins	100
NCSA-1G Surficial Soils-General Surface Contamination	101
NCSA-3 Secondary Basins – Former Basin F	103
NCSA-4B Secondary Basins – Basin F Exterior	104
NCSA-8A Sewer Systems – Sanitary Sewer to STP	106
NFU-MNP Structure – No Future Use, MFG, Non-Processing	107
NPSA-6 Agent Testing – Underground Spill Area	108
NW-A Northwest/Basin A Neck Plume	109
NW-SC Northwest/Sand Creek Lateral Plumes	110
OU-N North Plume Group – Off Post	111
OU-NW Northwest Plume Group Off – Post	112
SPSA-1A South Plants Balance Central Processing	113
SWP Site Wide Program	115
W-MP Western/Motor Pool Plume	117
WSA-7A Sewer System – Sanitary Sewer Sediments	118
IRP Response Complete Sites Summary	119
 IRP Schedule	 129
IRP Costs	134
 Community Involvement	 135

Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multi-year Installation Cleanup Program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern, and proposes a comprehensive, installation-wide approach, with associated costs and schedules, to conduct investigations and necessary remedial actions.

In an effort to coordinate planning information between the IRP manager, USAEC, installations, and executing agencies, an IAP has been completed for Rocky Mountain Arsenal. The IAP is used by AEC to track requirements, schedules and budgets for all major Army installation restoration programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

The following persons contributed to the formulation and completion of this Installation Action Plan at the IAP Workshop held 7-9 February 2006:

US Army Environmental Center
EEI for US Army Environmental Center
Rocky Mountain Arsenal
Washington Group for Rocky Mountain Arsenal
Calibre for US Army Environmental Center

Acronyms & Abbreviations

~	approximate
AEDB-R	Army Environmental Database - Restoration
AST	Aboveground Storage Tank
bcy	Bank Cubic Yards
Bldg	Building
BRAC	Base Realignment and Closure
CAMU	Corrective Action Management Unit
CCR	Construction Completion Report
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CO	Colorado
COC	Contaminant of Concern
CSRG	Containment System Remediation Goal
CTC	Cost-To-Complete
cy	Cubic Yards
DA	Department of Army
DAA	Detailed Analysis of Alternatives
DBCP	Dibromochloropropane
DD	Decision Document
DIMP	Diisopropylmethyl Phosphonate
DOD	Department of Defense
DSA	Development and Screening of Alternatives
EA	Endangerment Assessment
ELF	Enhanced Hazardous Waste Landfill
EPA	United States Environmental Protection Agency
ER,A	Environmental Restoration, Army (formerly called DERA)
ESD	Explanation of Significant Difference
FFA	Federal Facilities Agreement
FOST	Finding of Suitability to Transfer
FS	Feasibility Study
ft	foot
FY	Fiscal Year
GB	Sarin
gpm	gallons per minute
GSA	General Services Administration
GW	Groundwater
HCCPD	Hexachlorocyclopentadiene
HWL	Hazardous Waste Landfill
IAP	Installation Action Plan
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long Term Management
LUC	Land Use Control
MEC	Munitions and Explosives of Concern
MFG	Manufacturing

Acronyms & Abbreviations

MMRP	Military Munitions Response Program
NDMA	Nitrosodimethylamine
NE	Not Evaluated
NFA	No Further Action
NFU	No Future Use
NPDES	National Pollution Discharge Elimination System
NPL	National Priorities List
OCP	Organochlorine Pesticide
OU	Operable Units
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyls
POL	Petroleum, Oil and Lubricants
POM	Program, Operation, Management
ppb	Parts per Billion
ppm	Parts per Million
PRP	Primary Responsible Party
PY	Prior Year
RA	Remedial Action
RA(C)	Remedial Action - Construction
RA(O)	Remedial Action - Operation
RAB	Restoration Advisory Board
RC	Response Complete
RCRA	Resource Conservation and Recovery Act
RDIS	Remediation Design and Implementation Schedule
RD	Remedial Design
REM	Removal
RI	Remedial Investigation
RIP	Remedy in Place
RMA	Rocky Mountain Arsenal
ROD	Record of Decision
RR	Railroad
RRSE	Relative Risk Site Evaluation
Shell	Shell Oil Company
SI	Site Inspection
STP	Sewage Treatment Plant
SVOC	Semi-Volatile Organic Compounds
TAPP	Technical Assistants for Public Participation
TCE	Trichloroethylene
TRC	Technical Review Committee
TSCA	Toxic Substances Control Act
USACHPPM	United States Army Center for Health Promotion and Preventive Medicine
USAEC	United States Army Environmental Center
USAEHA	United States Army Environmental Hygiene Agency (currently called USACHPPM)
USATHAMA	United States Army Toxic and Hazardous Material Agency (currently called USAEC)

Acronyms & Abbreviations

USATSDR	United States Agency for Toxic Substances and Disease Registry
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geologic Service
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
WP	White Phosphorous
WWT	Waste Water Treatment

Installation Locale: The Rocky Mountain Arsenal (RMA), originally a 27 square mile (17,000 acres) installation, is located in southern Adams County, Colorado, approximately 9 miles northeast of downtown Denver. Areas bordering RMA include primarily agricultural land to the north and east, Denver International Airport adjacent to the eastern boundary of RMA, the Denver residential community of Montbello and industrial and commercial activities and the old Stapleton International Airport to the south, and Commerce City, a residential, commercial, and light industrial land use to the west.

Installation Mission: To clean up and transfer property to the USFWS for the establishment of the Rocky Mountain Arsenal National Wildlife Refuge.

Lead Organization: Base Realignment and Closure Division

Lead Executing Agency: Rocky Mountain Arsenal

Regulatory Participation:

Federal: U.S. Environmental Protection Agency, Region VIII

State: Colorado Department of Public Health & Environment

– State has RCRA regulatory authority over Basin F facilities and Corrective Action Management Unit (CAMU)

County: Tri-County Health Department (Adams, Arapahoe, and Douglas Counties)

National Priorities List (NPL) Status:

- Designated an NPL Site in 1987; consists of 2 operable units (On-Post and Off-Post)
- Federal Facility Agreement (FFA) signed in Feb 1989

Projected Dates for Construction Completion: FY12

Projected Date for NPL Removal: FY12 (for all surface areas). (Revegetation will be required for all cover areas).

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status: – Technical Review Committee (TRC) initiated in February 1989

- Board continues to recruit new members

Installation Program Summaries:

IRP

Primary Contaminants of Concern: VOCs, SVOCs, POL, Metals, Pesticides, Explosives

Affected Media of Concern: Soil, Groundwater

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): FY12

Funding to Date: (up to FY05): \$1,421,464K

Current Year Funding (FY06): \$71,100K

Cost-to-Complete (FY07+): \$458,888K

Cleanup Program Summary

Installation Historic Activity: The Rocky Mountain Arsenal (RMA) was established in 1942 by the U.S. Army for the production of chemical and incendiary munitions. The installation was placed on inactive status in 1988. South Plants housed the WWII era manufacturing plants. Major war chemicals produced were mustard, Lewisite, and chlorine gas (blister agents). Additionally, over 100,000 tons of incendiary munitions were produced by the end of WWII. In the 1950s, as the Cold War heated up, an additional manufacturing site, North Plants, was constructed to manufacture GB (Sarin) nerve agent. Demilitarization operations of chemical and incendiary ordnance were conducted through the 1970s. Unused portions of the South Plants area were leased to several private chemical producers, most notably Shell Oil Company, which produced industrial and agricultural chemicals, mainly pesticides and herbicides, from the late 1940s until the early 1980s.

Liquid waste streams from the production processes in the 1940s and early 1950s were discharged into a natural unlined evaporation pond, Basin A, located in Section 36. As waste stream production exceeded the Basin A capacity, additional unlined evaporation basins B, C, D, and E were utilized for waste discharge in adjacent sections. In 1956, Basin F, a state-of-the-art, asphalt lined evaporation basin, was constructed to place waste from Basin A, B, C, D, and E and also collect and store the liquid waste streams from the various processes. Solid wastes, from both industrial and military chemical production, were primarily disposed through burial and burning in Section 36, although some other on-post disposal sites were also used.

Tight controls on chemical agent production ensured that there were no catastrophic releases during manufacturing and demilitarization operations. However, other contamination of soil, surface water, and groundwater on RMA and in groundwater to the northwest of RMA did occur. Contamination came from a number of sources such as liquid waste disposal in the evaporation basins, solid waste burial in trenches, accidental spills of feedstock chemicals, leakage from sewer and process water systems, emissions from permitted air stacks, and use of commercial chemical products in normal facility operations.

Discovery of off-site contamination of ground water occurred in the 1950s. A Cease and Desist Order issued in 1975 by the State of Colorado prompted action. The Army initiated studies to determine sources of contamination and began construction of boundary groundwater control systems and other source control actions in 1976. RMA was designated a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) National Priority List (NPL) Site in 1987 with two operable units designated as the On-Post and Off-Post Operable Units.

RMA's Federal Facility Agreement (FFA) was signed in February 1989 by four Federal agencies and one private corporation. Signatories to the FFA were the U.S. Army, Shell Oil Company (Shell), the U.S. Fish and Wildlife Service (USFWS), the U.S. Environmental Protection Agency (USEPA) and the U.S. Agency for Toxic Substances and Disease Registry (USATSDR). The State of Colorado is not a signatory to the FFA. The FFA details Land Use Controls (LUCs) in the form of perpetual restrictions. These restrictions

Cleanup Program Summary

prohibit residential development, the use of groundwater and surface water for potable purposes, the consumption of fish and game taken on the RMA, and agriculture for consumption.

Current Activity: The Army is a Primary Responsible Party (PRP) under CERCLA and the lead agent in the Remedial Investigation, Feasibility Study, Remedial Design and Remedial Action phases for the two operable units. Shell is also a PRP. Shell shares in the cost of cleanup, provides technical expertise and performs some cleanup actions. The USFWS manages the flora and fauna of RMA as a National Wildlife Refuge under the Sikes Act and the Rocky Mountain Arsenal National Wildlife Refuge Act. Once final remediation is completed and certified by the USEPA, jurisdiction over most of RMA will be transferred from the Army to the USFWS. The USEPA as the lead regulatory agency has oversight authority for the cleanup and final decision authority to resolve disputes among the organizations.

Program Progress Summaries:

Installation Restoration Program (IRP) Progress to Date: Since 1975, the Army and Shell have undertaken numerous efforts to protect on-post and off-post human health and environment through the implementation of source controls and Interim Response Actions (IRAs). These remedial activities were initiated through agreements with both USEPA and the State of Colorado for the immediate implementation of treatment and containment actions. Following initial investigations, contamination sources were identified and initial source control actions were implemented.

In addition to the source control actions and in accordance with the FFA, 14 IRAs were established for implementation prior to the On-Post Record of Decision (ROD). All IRAs were completed with the signing of the ROD in June 1996, except for the Asbestos and Process Equipment IRAs that continued until December 1997. All work conducted after December 1997 has been performed as a final remedial action rather than an IRA. Construction completion reports, detailing the activities and status of the IRAs, were accepted by the USEPA in October 2000.

The preferred alternatives were selected as part of a deliberative process involving the Parties (Army, Shell, State of Colorado, USEPA, and the USFWS) and the Stakeholders (interested citizens and representatives of city and county agencies, and RAB members). These alternatives were outlined in the Proposed Plan in October of 1995, and the On-Post ROD was signed in June 1996.

Since then, the Army has developed 31 implementation projects from the selected remedy in the ROD. In addition to these projects, there are the site-wide and water treatment/monitoring projects. These projects are outlined in the Remediation Design and Implementation Schedule (RDIS), which is the detailed schedule for completion of activities associated with the selected remedy and appended to the ROD. The RDIS provides a comprehensive view of the overall remediation program and its status to the regulators and the public. Additionally, this schedule is used to develop enforceable and

Cleanup Program Summary

target deadlines for the completion of design and implementation activities as defined in the FFA.

IRP Future Plan of Action: Groundwater treatment systems will continue to operate at the boundaries, off-post and in the center of the installation (source area). The remaining contaminated soil will be excavated and the remaining No Future Use (NFU) structures will be demolished prior to transfer to USFWS. Resource Conservation and Recovery Act (RCRA)-equivalent covers will be placed on contained wastes and landfills. Sites where wastes are left in place and where groundwater treatment systems continue to operate will be retained by the Army indefinitely. LUCs will be implemented as detailed in the FFA. Long-Term Management (LTM) will occur at all sites where waste is left in place.

Note: MMRP & BRAC: There are no MMRP or BRAC sites at Rocky Mountain Arsenal.

Rocky Mountain Arsenal

Installation Restoration Program

Total AEDB-R IRP Sites/AEDB-R Sites with Response Complete: 212/185

Different Site Types:

4 Above Ground Storage Tanks	7 Burn Areas
8 Contaminated Buildings	4 Contaminated Fill
16 Contaminated Groundwater	5 Contaminated Sediments
2 Contaminated Soil Piles	10 Disposal Pit/Dry Wells
1 Drainage Ditch	2 Explosive Ordnance Disposal Areas
1 Incinerator	13 Landfills
66 Spill Site Areas	16 Storage Areas
2 Storm Drains	24 Surface Disposal Areas
14 Surface Impoundment/Lagoons	1 Surface Runoff
2 USTs	2 Unexploded Munitions/Ordnances
11 Waste Lines	1 Waste Treatment Plants

Most Widespread Contaminants of Concern: Pesticides, VOCs, SVOCs, Metals, Explosives, Chemical Agent, Solvents

Media of Concern: Soil, Groundwater

Completed Removal (REM)/Interim Remedial Action (IRA)/Remedial Action (RA):

Source Control Actions (1975-84)	\$ 77,925K
RI/FS/EA (FY85 – FY96)	\$160,069K
26 Interim Response Actions (FY85-FY96)	\$276,786K
Program Support/Management (FY85-FY05)	\$7,020K
43 Remedial Actions(C) (FY97- FY05)	\$600,048K
Remedial Operations/Monitoring/Management (FY85 – FY05)	\$277,176K
RAB Support	\$188K

Total IRP Funding:

Prior Years (up to FY05):	\$1,421,464K
Current Year Funding (FY06):	\$ 71,100K
Future Requirements (FY07+):	\$ 458,888K
Total:	\$1,951,452K

Duration of IRP:

Year of IRP Inception: 1975
 Year of IRP RIP/RC: 2012
 Year of IRP Completion including Long-Term Management (LTM): Indefinite

IRP Contamination Assessment Overview:

The Army began an intensive investigation of the sources of contamination in 1975. By 1983, the Army formally initiated a PA/SI for the Arsenal under CERCLA. Results of the PA/SI completed in 1984 indicated there were at least 178 sites on RMA with contamination above natural background levels, not including 15 individual contaminated groundwater plumes and hundreds of contaminated structures.

The RI results are summarized below by media:

- a) Air - no ambient air problems were detected.
- b) Biota - Some of the biota contain contaminants above biota "no effects" levels.
- c) Structures - Approximately one-half of RMA structures were identified as potentially contaminated based on previous use.
- d) Water - Contaminated groundwater plumes were detected primarily in the vicinity of the basins and North and South Plants. Plumes are primarily moving to the north and northwest. Surface waters did not show repeated detections, but were sporadically impacted by contaminated soils/sediment or by upgradient off-post sources.
- e) Soils/Sediment - The heaviest contamination was detected in the disposal basins and the South Plants manufacturing area, covering approximately half of the central six sections of RMA. Contamination tended to decrease with depth.

The contaminants of greatest concern for RMA include organochlorine pesticides, arsenic, mercury, volatile halogenated organics, volatile aromatic organics, volatile hydrocarbons, semivolatile halogenated organics, DIMP, organosulfur compounds, and organophosphorus compounds. The bulk of the contamination is contained in the central sections of RMA in and around the manufacturing complexes, solid waste disposal areas, and liquid waste basins. Data from the RI regarding the levels and extent of contamination were used as the basis for the Endangerment Assessment (EA) to assess risks and develop preliminary health-based cleanup criteria and in the Feasibility Study (FS) to determine sites requiring remediation as well as to develop, evaluate and select remedial alternatives for the cleanup of RMA.

In 1989, the Army initiated the FS for the on-post operable unit at RMA, developing a methodology that addressed the numerous soil sites, groundwater plumes, and structures, using chemical data and historical information provided in the RI reports combined with human health and biota risk criteria developed in the EA to identify areas requiring evaluation. A range of alternatives, and the results of screening these alternatives based on effectiveness, implementability, and cost, was presented in the Development and Screening of Alternatives (DSA) Report (Phase I of the FS), which was issued in final form on December 21, 1992. A consensus was reached among the Organizations and State (OAS) and was documented in the Agreement for a Conceptual Remedy in June 1995. Phase II of the FS, the Detailed Analysis of Alternatives (DAA) was completed and issued October 16, 1995. The Final On-Post ROD was signed June 1996.

The major components of the selected remedy consist of implementing groundwater, structures, and soil alternatives. The groundwater alternative includes operation of all existing boundary systems and on-post groundwater IRA systems, installation of a new extraction and piping system, and development of an extended monitoring program. The structures alternative includes demolition of all No-Future Use structures. These structures are defined as Agent History Group, Significant Contamination History Group and Other Contamination History Group. The soil alternative includes construction of a RCRA and TSCA-compliant hazardous waste landfill on post, consolidation of soil with low levels of contamination into Basins A and F and the South Plants Central Processing Area; RCRA-equivalent covers for contaminated soil in Basins A & F, South Plants, and the Section 36 trenches sites; treatment of most principle threat (greater than or equal to 10 times the human health criteria) soil; and on-post landfilling of soil and debris, including the Basin F Wastepile.

For the Off-Post operable unit, the RI, EA, FS have been completed and a ROD has been signed. The only media (air, soil, surface water, groundwater, biota) determined to require treatment was groundwater in limited areas. The groundwater intercept and treatment systems were put in place through the IRA program. The Off-Post ROD was signed in December 1995.

Cleanup Exit Strategy:

Groundwater treatment systems (5) will continue to operate at the boundaries, off-post and in the center of the installation (source area) until ROD remedial objectives are met: Remedial Action Objectives in the ROD are based on Containment System Remediation Goal, Applicable and Relevant and Appropriate Requirements, and containment goals. The remaining contaminated soil will be excavated by FY09 and the remaining structures will be demolished (by FY12) prior to transfer to USFWS. RCRA-equivalent covers will be placed on contained wastes and landfills (FY06-12). These sites (groundwater treatment systems and contained wastes) will be retained by the Army indefinitely. LUCs will be implemented as outlined in the FFA. LTM will occur at all sites where waste is left in place (some are expected to run indefinitely).

Site specific exit strategies are included in cleanup strategies for each site.

Transfer Strategy:

Western Tier Parcel - Complete

- 917 acres
- This site is subject to five year reviews. Deleted from NPL in Jan 2003
- FOST was signed in August 2003
- Transferred to GSA Sept 2003
- Sold in June 2004 to Commerce City for fair market value
- Army has no known future environmental requirements for this property

Perimeter Area - Complete

- 4,957 acres
- Deleted from NPL in January 2004
- Transferred in April 2004 to USFWS
- Army has no known future environmental requirements for this property

100-Foot Strip - Complete

- 126 acres
- Deleted from NPL in January 2004
- Transferred in September 2004 to local governments
- Army has no known future environmental requirements for this property

US Post Office Bulk Mail Facility – Complete

- 63 acres
- Transferred in August 2003 to GSA
- Transferred to US Postal Service in July 2005
- Army has no known future environmental requirements for this property

Klein Water Treatment Plant – Complete

- 12 acres
- Deleted from NPL in Jan 2003
- FOST was signed in August 2003
- Transferred to GSA in September 2003
- Transferred to South Adams County Water and Sanitation District in April 2005.
- Army has no known future environmental requirements for this property

Stage 3 (Internal Parcel) – Pending

- ~7,265 acres (acreage dependent on USEPA deletion)
- Contains property that the Army considers remediated
- Must be deleted from NPL prior to transfer
- Anticipated to be transferred in FY06 to USFWS

Stage 4 - Future

- ~2,700 acres (acreage dependent on USEPA deletion)
- AEDB-R sites that affect transfer: CERCLA, FWASTEPIL, NCSA-1B, NCSA-1G, NCSA-4B, NCSA-8A, NPSA-6, WSA-7A
- Must be deleted from NPL prior to transfer
- Anticipated to be transferred in FY12 to USFWS

The Army will maintain jurisdiction over ~1,000 acres of the surface area that includes landfills, caps/covers and groundwater treatment systems.

1984

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1985

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- ES&E, ROCKY: RMA Offpost Contamination Assessment Technical Plan A003 Revision A Contract Number DAAK11-83-D-0007: August 16

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- Cox, Roy L., Environmental Science & Engineering Inc (Cox), Author; Scharmann, Charles T., Rock: Letter Technical Plan Combined Offpost Borehole and Monitor Well Drilling Program Tasks 25, 36 and 39 - Project Number 86942, 86946: August 14
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- ES&E & ROCKY: Technical Plan Determination of Partition Coefficients for the Primary Contaminant Sources of Section 36 Task Number 23: October
- Borrelli, Darryl D., Rocky & Lytle, Robert S., EBASCO: Letter Technical Plan for Sediment Sampling in North Bog, Task 7: October 1
- Smith, Zachary A., ES&E, Rocky: Letter Technical Plan Task 25, 36 and 39 Offpost Monitoring Well Installation Program - Project Number 86946: November 26
- ES&E & ROCKY: Technical Plan for Well Installation Task Number One (1): December
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- ROCKY & EBASCO: Revised Letter Technical Plan for the South Plants Regional Study Task Number Two (2): December 10
- Blose, Kevin T., Rocky, Addressee; Lytle, Robert S., EBASCO: Letter Technical Plan, Follow-On Phase I Work, Site 2-1, Drainage Ditch Task Number 7: December 29
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1987 (Con't)

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- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-8: Chemical Drainage Ditch Task Number One (1) (Section 36) (Version 3.2) Contract Number DAAK11-84-D0016: April
- ROCKY & EBASCO: Final Technical Plan Task Number 17 Incineration/Fixation and Building 1611 Pilot Study for Basin F Wastes Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-10 South Tank Farm Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11ES&E, Author; Rocky, Addressee; Harding Lawson Assoc (Lawson), Author; Midwest Research Inst (Midwest), Author: Final Phase I Contamination Assessment Report (CAR) Site 36-11: Liquid Storage Pool (Version 3.1) Task Number One (1) (Section 36) Contract Number Daak11-84-D0016: April

1987 (Con't)

- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-20: Chemical Sewer (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: April
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-21: Drainage Ditch (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: April
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Section Number One (1) Uncontaminated Area Version 3.3 Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-12 Trash Dump Version 3.2 Task Number 12 Derby Lakes Area Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 12-2 Rod and Gun Club Pond Version 3.3 Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-4 Borrow Pit Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-6 Salt Storage Pad Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Laboratory Test Plan For Incineration of Basin F Wastes at RMA Task Number 17 Contract Number DAAK11-84-D-0017: April
- Cushing, Douglas L., EBASCO, Author; Lopez, Juan D., Rocky), Addressee: Letter Technical Plan for Task 20 at Sites 2-10, 2-11, 2-15 and 2-16 (This document can be found in a packet under RMA Information Center (RIC) Number 88012R13) Contract Number DAAK11-84-D-0017: April 27
- ES&E, Author; Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Report Site 36-3: Insecticide Pit (Version 3.1) Task Number One (1) (Section 36): May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-9 Open Storage Area Version 3.4 Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: May
- ES&E, ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-1: Basin A (Version 3.1) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: May
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Assessment Report (CAR) Site 36-4: Lime Settling Basins (Version 3.1) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-11: Liquid Storage Pool (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: May

1987 (Con't)

- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-1 Drainage Ditches (Version 3.4) Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Two Uncontaminated Area Version 3.3 Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 6-2 Eastern Upper Derby Lake (Upper Derby Lake Overflow) Version 3.2 Task Number 12 Contract Number DAAK11-84-D-0017: May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-8 Salvage Yard Version 3.3 Task Number Two (2) - Army Sites South Contract Number DAAK11-84-D-0017: May
- McClain, Mark E., ES&E, Author; Rocky, Addressee: Letter Technical Plan Task 36 RMA North Boundary System (NBS) Component Remedial Action (RA) Assessment; Additional Denver Formation Monitoring - Project Number 86958: May 11
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-4: Lime Settling Basins (Version 3.3) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: June
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Assessment Report (CAR) Site 36-3: Insecticide Pit (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: June
- ROCKY & EBASCO: Technical Plan Version 2.2 Task Number 42 Phase I Survey of North Plants Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Technical Plan Task Number 27 Hazardous Waste Land Disposal Facility Concept Design Study Contract Number DAAK11-84-D-0017: June
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Assessment Report (CAR) Site 36-15: Burning Site (Version 3.1) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-2 Upper and Lower Derby Lakes Version 3.2 Task Number 12 - Derby Lakes Area Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 11-1 Buried Lake Sludge Version 3.3 Task Number 12-Derby Lakes Area Contract Number DAAK11-84-D-0017: June
- ES&E, ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-3: Insecticide Pit (Version 3.3) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: June
- Grodt, Robert G., USAEHA, Author; McClain, Mark E., ES&E, Author; Rocky, Addressee: Letter Technical Plan Project Number 86958 - Evaluation of North Boundary Water Treatment Effectiveness and Clogging of Recharge Wells: June 24

1987 (Con't)

- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-1: Basin A (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: July
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 35-3: Basin B (Version 3.3) Task Number 6/19 (Sections 26 And 35) Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 26-5: Basin E (Version 3.2) Task Number 6/19 (Sections 26 And 35) Contract Number DAAK11-84-0016: July
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 35-4: Basin A Drainage Ditches (Includes Site 26-7: Basins B and C, Drainage Ditch) (Version 3.2) Task Number 6/19 (Sections 26 and 35) Contract Number DAAK11-84-D0016: July
- ROCKY & EBASCO: Final Technical Plan Task Number 27 Hazardous Waste Land Disposal Facility Assessment Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section 11 Uncontaminated Area Version 3.1 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section 12 Uncontaminated Area Version 3.2 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: July
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-15: Burning Site (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-1 Drainage Ditches (Version 3.3) Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-17 Lake Ladora and Lake Mary (Version 3.2) Task Number 7 - Lower Lakes Area Contract Number DAAK11-84-D-001: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 24-6 Sewage Treatment Plant (Version 3.2) Task Number 7 - Lower Lakes Contract Number DAAK11-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 30-4 Sanitary Landfill (Version 3.2) Task Number 7 Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-11 Sanitary Landfill Version 3.3 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-2 Test Site Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-5 Trench Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July

1987 (Con't)

- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 2-13 Former Open Storage Area Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Sites 2-14a and 2-14b Sanitary Landfills Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July
- Lopez, Juan D., Rocky, Addressee; Meyer, David R., EBASCO, Author: Ancillary Parameters for Lakes Region Sediment Samples (This document can be found in a packet under RMA Information Center (RIC) Number 88012R13): July 16
- Cushing, Douglas L., EBASCO, Author; Lopez, Juan D., Rocky, Addressee: Letter Technical Plan for Task Number 20 - Soil Gas Study at Site 3-4: July 20
- ES&E & ROCKY: RMA Water Quantity/Quality Survey Final Initial Screening Program Report Volume I Task Number Four (4) Contract Number DAAK11-84-ED-0016: August
- ES&E & ROCKY: RMA Water Quantity/Quality Survey Final Initial Screening Program Report Volume II Task Number Four (4) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: RMA Water Quantity/Quality Survey Final Initial Screening Program Report Volume III Task Number Four (4) Contract Number DAAKJ11-84-D-0016: August
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 26-Uncontaminated (Version 3.3) Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D-0016: September
- Cushing, Douglas L., EBASCO, Author; Lopez, Juan D., Rocky, Addressee: Revision of Letter Technical Plan for Task Number 20 - Soil Gas Study at Site 3-4: September 10
- Cushing, Douglas L., EBASCO, Author; Lopez, Juan D., Rocky, Addressee: Revision to Letter Technical Plan for Task Number 20 Proposal to Drill Additional Borings for Follow-On Phase II Field Program at Site 1-1: September 11
- Dept of the Army: Department of Army (DA) Applicable or Relevant and Appropriate Requirements (ARAR) Selection and Determination of ARAR Impact for Basin F Interim Action: October
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 26-4: Basin D (Version 3.3) Task Number Six (6) (Sections 26 And 35) (Prepared under Task Number 19) Contract Number DAAK11-84-0016: October
- ROCKY & EBASCO: Final Western Tier Trichloroethylene (TCE) Investigation Technical Plan Version 3.1 Task Number 38 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Phase II Data Addendum Site 2-9 Open Storage Area Version 0.1, Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Technical Plan Version 3.2 Task Number 32 - Sampling Wastes Handling Contract Number DAAK11-84-D-0017: November

1987 (Con't)

- ROCKY & EBASCO: Final Technical Plan Phase I - Volume I Version 3.2 Task Number 24 Program for Army Spill Sites Contract Number DAAK11-84-D-0017: November
- ROCKY & EBASCO: Final Technical Plan Volume II Structures Survey Program Version 3.1 Task Number 24 Contract Number DAAK11-84-D-0017: November
- ROCKY & EBASCO: Letter Technical Plan Extended Phase I Survey of North Plants Version 2.1 Task Number 42 Contract Number DAAK11-84-D-0017: November
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section 35 - Uncontaminated (35-Unc) (Version 3.3) Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D0016: November
- ROCKY & EBASCO: Final Technical Plan Phase I Survey of Army Sites - South Version 3.2 Task Number 15 Contract Number DAAK11-84-D-0017: November
- ROCKY & EBASCO: RMA Final Technical Plan Phase I Survey of North Plants Version 3.2 Task Number 42 Contract Number DAAK11-84-D-0017: November
- ROCKY & EBASCO: Final Technical Plan Version 3.1 Task Number 10 Sewer and Process Water System Investigations Contract Number DAAK11-84-D-0017: November
- ROCKY & EBASCO: Final Technical Plan Version 3.1 Task Number 31 Basin F Interim Response Action (IRA) Support Contract Number DAAK11-84-D-0017: December
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Assessment Report (CAR) Site 36-17: Complex Disposal Activity Version 3.1 Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: December
- ES&E & ROCKY: RMA Sections 26 and 35 Phase I Contamination Survey Final Technical Plan Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D-0016: December
- ROCKY: RMA Northwest Boundary Containment / Treatment System Baseline Conditions, System Startup, and Operational Assessment Report for FY 00/00/85 - 00/00/86 (FY85 - FY86) Volume I Report: December
- ROCKY: RMA Northwest Boundary Containment / Treatment System (NWBCS) Baseline Conditions, System Startup, and Operational Assessment Report for FY 00/00/85 - 00/00/86 (FY85 - FY86) Volume II Plates: December
- ROCKY: RMA Northwest Boundary Containment / Treatment System (NWBCS) Baseline Conditions, System Startup, and Operational Assessment Report for FY 00/00/85 - 00/00/86 (FY85 - FY86) Volume III Data Listings: December
- ES&E & ROCKY: RMA Offpost Assessment Contamination Assessment Report (CAR) Volume I Final Report Contract Number DAAK11-83-D-007: December
- ES&E & ROCKY: RMA Offpost Assessment Contamination Assessment Report (CAR) Volume II Final Report Contract Number DAAK11-83-D-007: December
- ES&E & ROCKY: RMA Offpost Assessment Contamination Assessment Report (CAR) Volume III Final Report Contract Number DAAK11-83-D-007: December

1987 (Con't)

- ES&E & ROCKY: Phase I Survey of Army Sites - North Final Technical Plan Task Number 14 (Prepared under Task Number 21) Contract Number DAAK11-84-D-0016: December
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 28 - Nonsource Area (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: December
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 29-1: Burn Site, Incendiaries (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: December
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number 31 Nonsource Area Version 3.2 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: December
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Nine (9) Nonsource Area Version 3.2 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: December
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 3-2/3-3 Drainage Ditch and Overflow Basin (Version 3.2) Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: December
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 12-1 Buried Lake Sludge Version 3.2 Task Number 12 Derby Lakes Area Contract Number DAAK11-84-D-0017: December
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 26-3: Basin C (Version 3.3) Task Number Six (6) (Sections 26 And 35) Contract Number DAAK11-84-D0016: December
- ES&E & ROCKY : Final Phase I Contamination Assessment Report (CAR) Section Number 27: Nonsource Area (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: December
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 22: Nonsource Area (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: December

1988

- ES&E & ROCKY: Final Baseline Contamination Assessment Basin F Tank Site Task Number 21 (Army Sites North) Contract Number DAAK11-84-D0016: January
- ROCKY, Addressee; California Analytical Labs Inc (Cal Labs), Author; EBASCO, Author; et al., Author; Robert L Stollar & Assoc (Stollar), Author: Technical Plan Version 3.1 Task Number 34 Hydrazine Blending and Storage Facility (HBSF) Wastewater Treatment and Decommissioning Assessment Contract Number DAAK11-84-D-0017: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-17: Complex Disposal Activity (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 19-1: Burn Site, Incendiaries (Version 3.2) Task Number 14 (Army Sites North) (Prepared under Task Number 21) Contract Number DAAK11-84-D0016: January

1988 (Con't)

- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 30-1: Impact Area (Includes 30-7: Ground Disturbance) (Version 3.3) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 30-5 M34 Demilitarization Operation Area (Version 3.3) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 4-2 Burning Pit Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: January
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Five (5) Nonsource Area Version 3.1 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: January
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Contamination Assessment Report (CAR) Site 36-5: Mercury Spill (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) 36-5: Mercury Spill (Version 3.3) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-10: Pit (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: January
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-12: Pits / Trenches (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: January
- ROCKY & EBASCO: Final Summary Report Western Tier Trichloroethylene (TCE) Soil Gas Investigation RMA Version 3.2 Task Number 38 Contract Number DAAK11-84-D-017: January
- ROCKY & EBASCO: Final Technical Plan Abandoned Well Program Version 3.3 Task Number 37 Contract Number DAAK11-84-D-0017: February
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-7: Solid Waste Burial / Sanitary Pits (Version 3.1) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: February
- ES&E & ROCKY: RMA North Boundary System (NBS) Component Response Action Assessment Final Technical Plan (Version 3.1) Task Number 36 Contract Number DAAK11-84-D-0016: February
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 30-6 Liquid Disposal Trenches (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: February
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-2: Munitions Test Area and Incendiary Drop Site (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: February
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-6: Probable Test Site with Trench (Redesignated As Site 25-16) (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: February

1988 (Con't)

- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-18 Possible Trench Disposal Site (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: February
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-19: Grading Scars (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: February
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 4-5 Burning Pits Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: February
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Three (3) Nonsource Area Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: February
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-3 Mounded Material Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: February
- ROCKY & EBASCO: Letter Technical Plan Task Number 22 - RMA Section 32-Unc (Nonsource Areas) and Sites 32-5 and 32-6 (Burning Pits) Extended Phase I Unexploded Ordnance (UXO) and Contaminant Investigation Aerial Geophysical Survey: February 3
- ES&E, Author; USATHAMA, Addressee; Lawson, Author: RMA Water Quantity / Quality Survey Letter Technical Plan - Groundwater Monitoring Well Network Task Number 44 Contract Number DAAK11-84-D-0016: February 10
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 26-1: Deep Disposal Well and Chemical Sewers (Version 3.2) Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D-0016: March
- ES&E & ROCKY: Onpost / Offpost Ground / Surface Water (Groundwater) Monitoring Program Final Technical Plan Task Number 44 Contract Number DAAK11-84-D-0016: March
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Site 3-4 Nemagon Spill Area Version 3.2 Task Number 7 - Lower Lakes Contract Number DAAK11-84-D-0017: March
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section 25 - Nonsource Area (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: March
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section 29 - Nonsource Area (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: March
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 35-7: Firing Range (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: March
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-22: Liquid Storage Pool (Version 3.2) Task Number One (1) (Section 36) Contract Number DAAK11-84-D0016: March

1988 (Con't)

- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 24-7 North Bog (Version 3.2) Task Number 7 - Army Sites South Contract Number DAAK11-84-D-0017: March
- Task 44 Technical Plan Addendum: March 10
- McClain, Mark E., ES&E, Author; Scharmann, Charles T., Rocky, Addressee: Letter Technical Plan Outlining Additional Stream and Lake Sediment Sampling and Analysis to be Performed in the Offpost Study Area for the Offpost Remedial Investigation (RI), Task 39: March 24
- ROCKY & EBASCO: Technical Plan Version 3.2 Task Number 34 Hydrazine Blending and Storage Facility (HBSF) Wastewater Treatment and Decommissioning Assessment Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Sanitary Sewer - North Plants Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Sanitary Sewer Interceptor Line Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: April
- USATHAMA, Addressee; Arthur D Little Inc, Author: An Evaluation of Three Leading Innovative Technologies for Potential Application to Basin F Materials at RMA Contract Number DAAK11-85-D-0008: April
- ES&E & ROCKY: Biota Assessment Letter Technical Plan Task Number Nine (9) Contract Number DAAK11-84-D-0016: April
- ES&E & ROCKY: Final Contamination Assessment Report (CAR) Site 29-4: Disposal Site, Explosives, and Incendiaries (Version 3.2) Task Number 14 (Army Sites North) (Prepared under Task Number 21) Contract Number DAAK11-84-D0016: April
- Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: April
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 30 - Nonsource Area (Version 3.1) Task
- Rocky & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 4-3 Burning Pit Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 4-4 Open Storage and Salvage Yard Support Areas Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: April
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number 33 Nonsource Area Version 3.1 Task Number 15 - Army Sites South Contract Number DAAK11-84-D-0017: April
- ES&E & ROCKY: Feasibility Study (FS) Technical Plan Version 3.2 Contract Number DAAK11-84-D-0016: April
- ES&E, Author: Rocky, Addressee; Lawson, Author; Midwest, Author: Final Phase I Contamination Assessment Report (CAR) Site 26-6: Basin F (Version 3.2) Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D0016: May

1988 (Con't)

- ES&E & ROCKY: RMA Water Quantity / Quality Survey Final Screening Program Third and Fourth Quarters Final Report (Version 3.1) Volume I Task Number Four (4) Contract Number DAAK11-84-D-0016: May
- ES&E & ROCKY: RMA Water Quantity / Quality Survey Final Screening Program Third and Fourth Quarters Final Report (Version 3.1) Volume II Task Number Four (4) Contract Number DAAK11-84-D-0016: May
- ES&E & ROCKY: RMA Water Quantity / Quality Survey Final Screening Program Third and Fourth Quarters Final Report (Version 3.1) Volume III Task Number Four (4) Contract Number DAAK11-84-D-0016: May
- ES&E & ROCKY: North Boundary System (NBS) Component Response Action Assessment Final Technical Plan (Version 3.2) Task Number 36 Contract Number DAAK11-84-D-0016: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 20 - Nonsource Area (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 30-3 Mustard Training Area (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 35-2/26-9 Chemical Sewer (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-23: Scrap Metal Storage / Parking Lot (Version 3.1) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 5-2 Potential Mustard (H) and Distilled Mustard (HD) Contamination Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: May
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 31-7 Toxic Storage Yard Storage Sheds Version 3.1 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 36-Nonsource Area (Version 3.2) Task Number One (1) Contract Number DAAK11-84-D0016: May
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Site 2-8 Former Tank Storage Area Version 3.2 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: May
- ROCKY & EBASCO: RMA Chemical Index Volume I-II: May
- ROCKY & EBASCO: RMA Chemical Index Volume III Chemical Specific Applicable or Relevant and Appropriate Requirements (ARAR) for Onpost Operable Unit (OU), RMA: May
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 26-6: Basin F (Version 3.3) Task Number Six (6) (Sections 26 and 35) (Prepared under Task Number 19) Contract Number DAAK11-84-D0016: May
- ROCKY: Final Decision Document for the Interim Response Action (IRA) for the Closure of Abandoned Wells at RMA: June

1988 (Con't)

- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 24-Nonsource Area (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: June
- ROCKY & EBASCO: Final Report Hydrazine Blending and Storage Facility (HBSF) Wastewater Treatment and Decommissioning Assessment - Version 3.1 Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Sanitary Sewer - South Plants Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 32-5 Burning Pits Version 3.1 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 32-6 Burning Pits Version 3.1 Task Number 15 - Army Sites-South Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Technical Plan Task Order Number 35 Endangerment Assessment (EA) RMA Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 6-6 Former Toxic Gas Storage Yard Version 3.2 Task Number 15 Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 31-4 Toxic Storage Yard Version 3.1 Task Number 15 Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 31-6 Toxic Storage Yard Storage Sheds Version 3.2 Task Number 15 Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Four (4) Nonsource Area Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number Six (6) Nonsource Area Version 3.1 Task 15 - Army Sites - South Contract Number DAAK11-84-D-0017: June
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Section Number 32 Nonsource Area Version 3.1 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: June
- ES&E & ROCKY: Overall Soil Assessment and Groundwater Integration Final Technical Plan (Version 3.1) Volume I Task Number 23 Contract Number DAAK11-84-D-0016: June
- ES&E & ROCKY: Overall Soil Assessment and Groundwater Integration Final Technical Plan (Version 3.1) Volume II Task Number 23 Contract Number DAAK11-84-D-0016: June
- ES&E & ROCKY: Task Number 30 Sump 1727 Interim Response Action (IRA) Alternatives Assessment Final Report Version 3.2 Contract Number DAAK11-84-D-0016: July

1988 (Con't)

- ROCKY & EBASCO: Final Groundwater Intercept and Treatment System North of Basin F Interim Response Action (IRA) Alternatives Assessment Version 3.1: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Sites 1-13 and 2-18 South Plants Manufacturing Complex Shell Chemical Company (SCC) Spill Sites Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: July
- ROCKY: Final Decision Document for the Interim Response Action (IRA) for the Improvement of the North Boundary System (NBS) at RMA Via Construction of Groundwater Recharge Trenches: July
- ES&E & ROCKY: Offpost Remedial Investigation / Feasibility Study (RI/FS) Final Technical Plan Task Number 39 Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Biota Assessment Phase I Final Technical Plan (Version 3.2) Task Number Nine (9) Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Biota Assessment Phase II Final Technical Plan (Version 3.2) Task Number Nine (9) Contract Number DAAK11-84-D-0016: July
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Site 4-6 Motor Pool Area Version 3.1 Task Number 38 Contract Number DAAK11-84-D-0017: July
- ES&E & ROCKY: Biota Assessment Letter Technical Plan Task Number Nine (9) Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 34 - Nonsource Area (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: July
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 32-5 Burning Pits Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: July
- ES&E & ROCKY: Overall Soil Assessment and Groundwater Integration Final Technical Plan (Version 3.2) Volume I Task Number 23 Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Overall Soil Assessment and Groundwater Integration Final Technical Plan (Version 3.2) Volume II Task Number 23 Contract Number DAAK11-84-D-0016: July
- ES&E & ROCKY: Final Phase II Data Addendum Site 26-1: Deep Disposal Well (Version 3.2) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Section Number 26-Nonsource Area (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Sanitary Sewer - Railyard and Administration Areas Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 19-1: Burn Site (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Section Number 23 - Nonsource Area (Version 3.3) Task Number 14 (Army Sites - North) (Prepared under Task Number 21) Contract Number DAAK11-84-D-0016: August

1988 (Con't)

- ES&E & ROCKY: Final Phase II Data Addendum Site 29-4: Disposal Site, Explosives, and Incendiaries (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Section Number 29 - Nonsource Area (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Section Number 30 - Nonsource Area (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 35-7: Firing Range (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-19: Grading Scars (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-23: Scrap Metal Storage / Parking Lot (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 32-6 Burning Pits Version 3.2 Task Number 15 - Army Sites - South Contract Number DAAK11-84-D-0017: August
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Process Water System Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-8: Chemical Drainage Ditches (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-11: Liquid Storage Pool (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-15: Burning Site (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-20: Chemical Sewer (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-21: Drainage Ditch (Version 3.1) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: RMA Air Remedial Investigation (RI) Final Report Volume I (Version 3.1) Task Number 18 (Air Monitoring) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: RMA Air Remedial Investigation (RI) Final Report Volume II (Version 3.1) Task Number 18 (Air Monitoring) Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: RMA Final Report Technology Inventory and Screening (Version 3.1) Task Number 28 Contract Number DAAK11-84-D-0016: August
- ES&E & ROCKY: Final Phase II Data Addendum Site 26-6: Basin F (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) Site 1-7 Hydrazine Blending and Storage Facility (HBSF) Version 3.2 Task Number 11 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Basin A Neck Groundwater Intercept and Treatment System Interim Response Action (IRA) Alternatives Assessment Version 3.2: September

1988 (Con't)

- ROCKY & EBASCO: Final Sanitary Sewer Remediation Interim Response Action (IRA) Alternatives Assessment Version 3.2 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Contamination Assessment Report (CAR) Chemical Sewers - North Plants and South Plants Version 3.2 Task Number 10 Contract Number DAAK11-84-D-0017: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-4: Lime Settling Basins (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-17: Complex Disposal Activity (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ROCKY & EBASCO: Final Phase I Data Presentation Report Army Spill Sites South Plants Manufacturing Complex Version 3.2 Task Number 24 Contract Number DAAK11-84-D-0017: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-7: Solid Waste Burial / Sanitary Pit (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-3: Insecticide Pit (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-9 Incendiary or Munitions Test Area (Version 3.3) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-16 Incendiary Burial Site (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: September
- ROCKY & EBASCO: Final Volume Number One (1) Summary Report for Incineration of Basin F Wastes at RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Volume Number Two (2) Selection of Incineration Technology for Basin F Wastes at RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Volume Number Three (3) Analysis of Pilot Plant Alternatives for the Incineration of Basin F Wastes at RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Volume Number Four (4) Bench-Scale Laboratory Incineration of Basin F Wastes RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Volume Five (5) Bench-Scale Laboratory Incineration of Section Number 36 Wastes (Expansion Program) RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Volume Six (6) Full-Scale Incineration System Conceptual Design for Basin F Wastes RMA Task Number 17 Contract Number DAAK11-84-D-0017: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 26-3: Basin C (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 35-3: Basin B (Version 3.1) Contract Number DAAK11-84-D-0016: September

1988 (Con't)

- ES&E & ROCKY: Final Phase II Data Addendum Site 26-4: Basin D (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 26-5: Basin E (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 35-4: Drainage Ditches (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Section Number 35-Nonsource Area (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Boundary Systems Monitoring Final Technical Plan Task Number 25 Contract Number DAAK11-84-D-0016: September
- Morrison-Knudsen Engineers Inc, Author; Shell Oil Co. (Shell), Addressee: Implementation Document for Interim Response Action (IRA) to Improve the North Boundary System (NBS) Via Construction of Groundwater Recharge Trenches Final: September
- ROCKY & EBASCO: Final Report Task Number 27 Volume I - Report Hazardous Waste Land Disposal Facility Assessment Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Report Task Number 27 Volume II - Appendices Hazardous Waste Land Disposal Facility Assessment Contract Number DAAK11-84-D-0017: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 20-1: Burn Site, Incendiaries (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Section Number 25 - Nonsource Area (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 29-5: Bomb Disposal Site (Includes 32-1) (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 30-1: Impact Area (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 30-2: Burn Site, Incendiaries (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 30-5: M34 Demilitarization Operation Area (Incorrectly identified as Liquid Disposal Trenches) (Version 3.1) Contract Number DAAK11-84-D-D0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 30-6: Liquid Disposal Trenches (Version 3.1) Contract Number DAAK11-84-D-D0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 35-6: Possible Munitions Test Area (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D0016: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-2: Munitions Test Area and Incendiary Drop Site (Version 3.1) Contract Number DAAK11-84-D-0016: September

1988 (Con't)

- ES&E & ROCKY: Final Phase II Data Addendum Site 25-17: Probable Test Site with Trench (Formerly designated as 36-6) (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-13: Trenches (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: September
- ES&E & ROCKY: Final Phase I Contamination Assessment Report (CAR) Site 36-14 Mustard Plant Disposal Site (Version 3.2) Task Number 14 (Army Sites North) Contract Number DAAK11-84-D-0016: September
- ROCKY & EBASCO: Final Phase I Contamination Assessment Report (CAR) North Plants Complex Version 3.2 Task Number 42 - North Plants Contract Number DAAK11-84-D-0017: September
- ES&E & ROCKY: Final Phase II Data Addendum Site 36-1: Basin A (Version 3.1) Contract Number DAAK11-84-D-0016: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-5 Lime Pits Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-11 Sanitary Landfill Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-2 Test Site Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-3 Lagoon Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-7 Aeration Basin Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-9 Open Storage Area Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-13 Former Open Storage Area Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: September
- ROCKY: Final Decision Document for the Interim Response Action (IRA) at the RMA Hydrazine Blending and Storage Facility (HBSF): October
- ROCKY & EBASCO: Final Volume I Summary of Results Structures Survey Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Report Section 2.1 Buildings 111-176 (Administration) and Buildings 211-296 (South Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October

1988 (Con't)

- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Section 2.2a Buildings 307-329 (South Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Section 2.2b Buildings 331-395 (South Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Section 2.3 Buildings 409-475 (South Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Exceeding Section 2.4a Buildings 502-523g (South Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Section 2.4b Buildings 524-571b (South Plants) Task Number 24: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Section 2.5 Buildings 605-688 (Rail Classification Yard/Maintenance Area) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Report Section 2.6a Buildings 724-798 (South Plants and Sections Six (6), 31, and 36) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Report Section 2.6b Buildings 801-886 (Sections Number One (1), Six (6), 12, 19, 23-27, 30, 33, 35, and 36) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Report Section 2.7 Buildings 1402-1405; Buildings 1501-1512; Buildings 1601-1622; and Buildings 1701-1736 (North Plants) Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume II Structure Profiles Structures Survey Report Section 2.8 Tanks and Tank Farms with No RMA Building Number Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Volume III Databases Structures Survey Task Number 24 Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase I Data Presentation Report South Plants Regional Study South Plants Manufacturing Complex Version 3.2 Task Number Two (2) Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-10 South Tank Farm Version 3.1 Task Number Two (2) - South Plants Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 3-4 Nemagon Spill Area Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- Planning Documents for Task Order Number Five (5) RMA Denver Colorado Contract Number DAAA 15-86-D-00015: October

1988 (Con't)

- ROCKY & EBASCO: Final Phase II Data Addendum Site 4-3 Burning Pit Version 3.1 Task Number 22 - Army Sites-South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 32-5 Burning Pits Version 3.1 Task Number 22 - Army Sites-South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 4-2 Burning Pit Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 32-6 Burning Pits Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 5-2 Potential Mustard (H) and Distilled Mustard (HD) Contamination Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 4-4 Open Storage and Salvage Yard Support Areas Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 6-6 Former Toxic Gas Storage Yard Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 4-5 Burning Pits Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 31-4 Toxic Storage Yard Version 3.1 Task Number 22 - Army Sites-South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 11-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites-South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO : Final Phase II Data Addendum Section 12-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 31-6 Toxic Storage Yard Storage Sheds Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 31-7 Toxic Storage Yard Storage Sheds Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 4-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October

1988 (Con't)

- ROCKY & EBASCO: Final Phase II Data Addendum Section 9-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 6-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 31-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 32-Unc Nonsource Area Version 3.1 Task Number 22 - Army Sites - South Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-1 Drainage Ditches Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-6 Former Ton Container (TC) Storage Area Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-9 Open Storage Area Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 1-12 Trash Dump Version 3.1 Task Number 20 - Derby Lakes Area Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Section 1-Unc Nonsource Area Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-1 Drainage Ditches Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 2-10/11/15/16 Ground Scar/Open Storage/Open Storage/Pit Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 3-2/3-3 Drainage Ditch and Overflow Basin Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 6-2 Eastern Upper Derby Lake (Upper Derby Lake Overflow) Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 11-1 Buried Lake Sludge Version 3.1 Task Number 20 - Lower Lakes Survey Contract Number DAAK11-84-D-0017: October

1988 (Con't)

- ROCKY & EBASCO: Final Phase II Data Addendum Site 12-1 Buried Lake Sludge Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 12-2 Rod and Gun Club Pond Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 24-6 Sewage Treatment Plant Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 24-7 North Bog Version 3.1 Task Number 20 - Lower Lakes Contract Number DAAK11-84-D-0017: October
- ROCKY & EBASCO: Final Phase II Data Addendum Site 30-4 Sanitary Landfill Version 3.1 Task Number 20 - Lower Lakes Survey Contract Number DAAK11-84-D-0017: October
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1988 (Con't)

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1989

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1989 (Con't)

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1990

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1990 (Con't)

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1990 (Con't)

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1990 (Con't)

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1990 (Con't)

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1990 (Con't)

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1990 (Con't)

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1990 (Con't)

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1991 (Con't)

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1991 (Con't)

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1991 (Con't)

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1991 (Con't)

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1992 (Con't)

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- Morrison Knudsen Corp, Author; Shell, Addressee: Final Implementation Document for Northwest Boundary System (NWBS) Long Term Improvements Interim Response Action (IRA) Volume I General Volume II Engineering Specifications Volume III Engineering Drawings: January
- Blose, Kevin T., Rocky, Addressee; Roe, George E., Shell, Author: Constitutes a Letter Technical Plan for the Annual Groundwater Sampling Program for the South Tank Farm Plume (STFP) Interim Response Action (IRA): March 25
- Rocky, Addressee; Lawson, Author: Offpost Operable Unit (OU) Remedial Investigation (RI) Final Addendum - Volume I of II Contract Number DAAA15-88-0021: March 30
- ROCKY, Addressee; Lawson, Author: Offpost Operable Unit (OU) Remedial Investigation (RI) Final Addendum - Volume II of II Contract Number DAAA15-88-0021: March 30
- ROCKY, Addressee; Weston, Author: Volume I of V Summary and Methodologies Final Report Task 005 Survey of Asbestos Containing Materials (ACM) at the RMA Version 3.0 Contract Number DAAA15-88-D-0023: April
- ROCKY, Addressee; Weston, Author: Volume II of V Structure Numbers 0112 through 0415 Final Report Task 005 Survey of Asbestos Containing Materials (ACM) at the RMA Version 3.0 Contract Number DAAA15-88-D-0023: April
- ROCKY, Addressee; Weston, Author: Volume III of V Structure Numbers 0416 through 0646 Final Report Task 005 Survey of Asbestos Containing Materials (ACM) at the RMA Version 3.0 Contract Number DAAA15-88-D-0023: April
- ROCKY, Addressee; Weston, Author: Volume IV of V Structure Numbers 0647a through 1512 Final Report Task 005 Survey of Asbestos Containing Materials (ACM) at the RMA Version 3.0 Contract Number DAAA15-88-D-0023: April
- ROCKY, Addressee; Weston, Author: Volume V of V Structure Numbers 1601 through V1313 Final Report Task 005 Survey of Asbestos Containing Materials (ACM) RMA Version 3.0 Contract Number DAAA15-88-D-0023: April
- Blose, Kevin T., Rocky, Addressee; Roe, George E., Shell, Author: Constitutes a Letter Technical Plan for Drilling Boreholes in Sections 1 and 2 in the South Tank Farm Area: April 3
- ROCKY, Addressee; EBASCO Author: Final Detailed Analysis of Alternatives (DAA) Task Plan Version 3.1 Contract Number DAAA05-92-C-0001: July
- EBASCO, Author: Final Risk Assessment Screening Memorandum for M-1 Settling Basins Interim Response Action (IRA) Version 3.1: August
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1992 (Con't)

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1992 (Con't)

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1993 (Con't)

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- ROCKY, Addressee; Woodward-Clyde Consultants, Author: Final Technical Report - Phase III On-Post Feasibility Study (FS) Field Data Collection Version 2.0 Contract Number DAAA15-88-D-0022: April
- ROCKY, Addressee; EBASCO Author: Final Assessment / Decision Document Underground Storage Tank (UST) Monitoring and Removal Version 1.0 Contract Number DAAA05-92-D-0002: August
- Corps of Engineers, Addressee; Woodward-Clyde Consultants, Author: Final Implementation Document Volume II Basin F Liquid Storage Tank 102 Decontamination Field Demonstration RMA, Colorado: August
- Corps of Engineers, Addressee; Weston Inc, Author: Final Decision Document for Element Two (PCB) of the CERCLA Hazardous Wastes Interim Response Action (IRA) RMA Version 1.0 Contract Number DAAA05-92-D-0005: September
- ROCKY, Addressee; Tennessee Valley Authority, Author: Final Implementation Document for Decontamination and Dismantling of Chemical Process Related Equipment at the South Plants at RMA: October
- ROCKY: Final Implementation Letter Chemical Process Related Activities Free Standing Tank Removal Interim Response Action (IRA): October
- Mears, Connally E., USEPA, Addressee; Scharmann, Charles T., Rocky, Author: Implementation Letter (IL) for Element One (1) of the CERCLA Liquid (Hazardous) Waste Interim Response Action (IRA) - Gives notice that the Army is preparing to dispose of 118 miscellaneous drums derived from the CERCLA support activities: November 30
- ROCKY, Addressee; Weston, Author: Trial Burn Summary Report for the Interim Response Action (IRA) Basin F (Liquid) Submerged Quench Incinerator (SQI) Project Volume I Final: December
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1994

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1994 (Con't)

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- ROCKY, Addressee; Jacobs Engineering Group Inc., Author: Final Chemical Process Related Activities Nonagent, Non-process External Piping Implementation Letter Plan Version 3.1 Task Order 92-13 Contract Number DAAA05-92-D-0004: February
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- Weston, Author: Interim Response Action (IRA) Basin F Liquid Incineration Project Final Human Health Risk Assessment (HHRA) Volume I: March
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1994 (Con't)

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- ROCKY, Addressee; Datachem Inc, Author; EBASCO, Author; et al., Author; Greystone Environmental Services Inc, Author: Final
- Integrated Endangerment Assessment (IEA) / Risk Characterization (RC) (IEA/RC) Volume IV of IV Version 4.2 Appendices, E, and F (with replacement pages) Contract Number DAAA05-92-D-0002: July
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- ROCKY, Addressee; EBASCO Author: Final Implementation Letter Underground Storage Tank (UST) Monitoring and Removal Version 3.2 Contract Number DAAA05-92-D-0002: November

1995

- ROCKY, Addressee; Jacobs Engineering Group Inc., Author: Final Chemical Process Related Activities Nonagent Process Equipment and Piping Planning Task Consolidated Implementation Document - Version 3.1 Contract Number DAAA05-92-D-0004: January
- Foster: Final Detailed Analysis of Alternatives (DAA) Report, Version 4.1, Executive Summary Volume I of VII: October
- Foster: Final Detailed Analysis of Alternatives (DAA) Report, Version 4.1, Soil DAA, Volume II of VII: October
- Foster: Final Detailed Analysis of Alternatives (DAA) Report, Version 4.1, Soil DAA, Volume III of VII: October
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- Foster: Final Detailed Analysis of Alternatives (DAA) Report, Version 4.1, Water DAA, Volume V of VII: October

1995 (Con't)

- Foster: Final Detailed Analysis of Alternatives (DAA) Report Version 4.1 Structures DAA Volume VI of VII: October
- Baker Consultants Inc (Baker), Rocky, Addressee; Foster, Author; Rust Environment & Infrastructure (Rust): Final Detailed Analysis of Alternatives (DAA) Report, Version 4.1, Technology Descriptions, Volume VII of VII: October
- ROCKY: (Final) Proposed Plan for the RMA On-Post Operable Unit (OU): October
- ROCKY, Addressee; Lawson, Author: RMA Off-Post Operable Unit (OU) Final Record of Decision (ROD) RMA Commerce City, Colorado: December 19
- ROCKY, Addressee; Lawson, Author: RMA Off-Post Operable Unit (OU) Final Record of Decision (ROD) - Appendix A: Responsiveness Summary: December 19
- ROCKY, Addressee; Lawson, Author: RMA Off-Post Operable Unit (OU) Final Record of Decision (ROD) - Appendix B: Institutional Controls; Includes Clarification of Requirements at Attachment 3: Army, Shell (SOC), Colorado, EPA, FWS Agreement, Signed 06/11/96; Certification Filed 06/11/96, with 02/02/96 Declaration of Covenants; and Unsigned Release: December 19
- ROCKY, Addressee; Lawson, Author: RMA Off-Post Operable Unit (OU) Final Record of Decision (ROD) - Appendix C: Well Closure Criteria: December 19

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- Program Manager Rocky Mountain Arsenal (CO) (ROCKY), Addressee; Foster Wheeler Environmental Corp, Addressee (Foster): Record of Decision (ROD) for the On-Post Operable Unit (OU) Volume 1 Sections 1-11 Version 3.1 (Contract Number DAAA 05-92-D-0002): June
- FOSTER: Record of Decision (ROD) for the On-Post Operable Unit (OU) Volume 2 Section 12 Version 3.1 (Contract Number DAAA 05-92-D-0002): June
- FOSTER: Record of Decision (ROD) for the On-Post Operable Unit (OU) Volume 3 Appendices A (ARAR) and B (Agreement In Principle Regarding A Water Supply Between the Army, Shell, and SACWSD) Version 3.1 (Contract Number DAAA 05-92-D-0002): June
- RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS) 12/09/1996
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1997

- Amended Portions of the RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS) (Concern Enforceable Deadlines) 03/04/1997
- Remediation Design and Implementation Schedule (RDIS) RMA Record of Decision (ROD) for the On-Post Operable Unit (OU), Originally Dated 12/09/1996 (Copy with portions amended on 03/04/1997 Incorporated) Site 1959 - 1 00001695 03/04/1997

1997 (Con't)

- Amended Portions of The RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS) (Concern Enforceable Deadlines) 03/04/1997
- Remediation Design and Implementation Schedule (RDIS) Report to the RMA Committee 05/08/1997 - Encloses RDIS Milestone Dates / Changes as of 04/00/1997 05/08/1997
- Sanitary and Chemical Sewer Plugging Project 95 Percent (Actually 100 Percent) Design Package (issued for construction) Includes Plans: Health / Safety, Quality Assurance (QA) Project (QAPP), and Construction Quality Assurance Plan (CQAP) 05/29/1997
- Remediation Design and Implementation Schedule (RDIS) Record of Decision (ROD) for the On-Post Operable Unit (OU) 12/09/1996
- Complex Trenches and Shell Section 36 Trenches Groundwater Barrier (Slurry Wall) Project 100 Percent Design Package (Includes Plans: Health / Safety Program Requirements, Air Monitoring Work Plan, Construction Quality Assurance Plan (CQAP), and Project Completion 09/1997
- (Final 100 Percent Design) Specifications for Construction Lake Ladora Dam Repair RMA 08/1997
- Remediation Design and Implementation Schedule (RDIS) Record of Decision (ROD) for the On-Post Operable Unit (OU) 12/09/1996
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1997 (Con't)

- Basin A Consolidation and Remediation Project Final (100 Percent) Design Pkg (issued for construction) Includes Plans: Health / Safety, Groundwater / Air Monitoring, Material Handling / Placement, Stormwater Management, and Project Completion - Updated With 01/22/1999 Section 02900 Revegetation and 03/31/1999 Section 02250 Subsurface Warning Labels, Shell Oil Co, Morrison Knudsen Corp, 09/29/1997

1998

- Hazardous Waste Landfill Design (Double Lined) Landfill Wastewater Treatment System (LWST) Final (100 Percent) Design Package (Includes Plans: Health / Safety Program Requirements, Construction Quality Assurance Plan (CQAP), and Closure 04/13/1998
- Sanitary and Chemical Sewer Plugging Project Construction Completion Report (CCR) (Phase I) Shell Oil Co, Morrison Knudsen Corp 04/24/1998
- North Boundary Containment System (NBS) System Modifications for Treatment of N-Nitrosodimethylamine (NDMA) Construction and Startup Completion Report (CCR) Rocky Mountain Arsenal (CO) Remediation Venture, Shell Oil Co 06/30/1998
- Remediation Design and Implementation Schedule (RDIS) Summer 00/00/1998 Activity Report, Shell Oil Co., Morrison Knudsen Corp 07/07/1998
- Stage I Haul Roads 100 Percent Design Package (Includes Plans: Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), and Haul Roads Operations – RVO Responses to the 06/00/1998 95 Percent Design for Stage I are Appended) 08/1998
- RMA Sanitary and Chemical Sewer Plugging Project Construction Completion Report (CCR) Shell Oil Co., Foster Wheeler Environmental Corp 8/03/1998
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- Corrective Action Management Unit (CAMU) / Basin A Well Abandonment Project Construction Completion Report (CCR) Draft Anderson, Gary M., Program Manager Rocky Mountain Arsenal (Co) Garcia, Sam, Environmental Protection Agency 08/17/1998
- Stage II Haul Roads (100 Percent) Design Package - Includes Plans: Construction Quality Assurance Plan (CQAP), Haul Roads Operations; and Under Technical Specifications an Odor Control Plan and a Dust Control Plan, Dept of the Army, Fish & Wildlife Service, Shell Oil Co 09/1998
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- RMA Construction Completion Report Chemical (CCR) Process Related Activities Free Standing Tank Removal Outside Pipeline and Equipment Removal (Revises

1998 (Con't)

- 03/20/1998 Report) (Final) Fish & Wildlife Service, Shell Oil Co. 9/1998
- RMA North Boundary Containment System (NBS) System Modifications for Treatment of N-Nitrosodimethylamine (NDMA Construction and Startup Completion Report (CCR) (This is the 06/30/1998 report revised 09/30/1998) (Final), Fish & Wildlife Service, Shell Oil Co., Dept of the Army 09/30/1998
- Corrective Action Management Unit (CAMU) / Basin A Well Abandonment Project Construction Completion Report (CCR) (Final), Shell Oil Co., Morrison Knudsen Corp 08/17/1998
- Corrective Action Management Unit (CAMU) Soil (Soils) Remediation Construction Completion Report (CCR) Final, Shell Oil Co, Dept of the Army, Fish & Wildlife Service 09/30/1998
- Miscellaneous Northern Tier, Miscellaneous Southern Tier, and Lake Sediments Project, 100 Percent Design Package (Appendix F includes the Construction Quality Assurance Plan (CQAP), Site Specific Air Monitoring Plan, and Project Completion Plan), Fish & Wildlife Service, Shell Oil Co 10/1998
- South Plants Structures Demolition and Removal Project Phase 1 (Final 100 Percent) Design Package (Includes Plans: Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), Air Monitoring, Stormwater / Erosion Control Management, and Project Completion) Rocky Mountain Arsenal (CO) Remediation Venture, Shell Oil Co., Foster Wheeler Environmental Corp 10/1998
- Replacement pages for RMA Existing (Sanitary) Landfills Remediation Project, 100 Percent Design Package, Design Analysis, Revision Number 1, Shell Oil Co, Foster Wheeler Environmental Corp 10/01/1998
- Existing (Sanitary) Landfills Remediation Project, 100 Percent Design Package, Design Analysis, Revision Number 1, Shell Oil Co, Foster Wheeler Environmental Corp 10/01/1998
- Instruction Page to the 09/1998 Stage II Haul Roads 100 Percent Design Package, Amendment 1 to Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 10/27/1998
- Amendment 1 to the 09/1998 Stage II Haul Roads 100 Percent Design, Construction Quality Assurance Plan (CQAP) 09/23/1998
- Final (100 Percent) Design Specifications Hazardous Waste Landfill - Updated with Supplemental or Replacement Specifications per 10/22/1998 Transmittal, Shell Oil Co, Foster Wheeler Environmental Corp 06/1998
- Stage II Haul Roads Design Package (100 Percent). Updated with Amendment 1 Provided in 10/27/1998 Transmittal and Revision 1 Drawings in 10/26/1998 Transmittal, Corps of Engineers 09/1998
- Addenda Number 2 for Existing (Sanitary) Landfill Remediation Project, 100 Percent Design (Replacement Pages), Shell Oil Co, Foster Wheeler Environmental Corp 12/02/1998

1998 (Con't)

- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package - Updated with the 12/02/1998 Addendum Number 2, Shell Oil Co, Foster Wheeler Environmental Corp 10/01/1998
- SACWSD Henderson Pipeline Construction Completion Report (CCR), Shell Oil Co, Foster Wheeler Environmental Corp 12/20/1998
- Basin A Operator Support Facility Project 100 Percent Design Package (Includes 12/08/1998 Plans: Health and Safety Requirements, and Construction Quality Assurance Plan (CQAP)), Fish & Wildlife Service, Shell Oil Co 12/1998
- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package - Updated with 01/21/1999 Existing Sanitary Landfill Section 01371 Odor Control Plan, Technical Specifications, Revision 2, Fish & Wildlife Service, Shell Oil Co 08/1998
- South Plants Structure Demolition and Removal Project Phase 1 (Final 100 Percent) Design Package - Updated with Technical Specifications Sections 01420 Decontamination, 01422 Temporary Remote Decontamination Operations, and 01425 South Plants Decontamination Operations, Shell Oil Co, Foster Wheeler Environmental Corp 10/1998
- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package - Updated with 03/24/1999 Health and Safety Requirements 100 Percent Design Package, Revision 1, which includes 04/05/1999 Recovered Chemical Warfare Materiel (RCWM) Safety Plan as Appendix B., Shell Oil Co, Foster Wheeler Environmental Corp 08/1998
- Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS), Shell Oil Co, Foster Wheeler Environmental Corp 02/06/1998
- Undefined Rocky Mountain Arsenal (CO) Remediation Venture Complex (Army) Trenches and Shell Section 36 Trenches Groundwater Barrier Project 100 Percent Design Package Air Monitoring Plan Addendum (Includes as Appendix B the 08/21/1998 Site Specific Air Monitoring Quality Assurance Project Plan (QAPP), Revision 3) 08/1998
- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package; Includes 08/24/1998 Plans: Construction Quality Assurance Plan (CQAP), Health / Safety Requirements, Project Completion, Air Monitoring, Haul Roads Operations, and Borrow Areas, Rocky Mountain Arsenal (CO) Remediation Venture, Foster Wheeler Environmental Corp 08/1998
- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package Design Analysis, Shell Oil Co, Tetra Tech EC Inc, 08/06/1998
- Stage II Haul Roads (100 Percent) Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 09/18/1998
- Miscellaneous Northern Tier, Miscellaneous Southern Tier, and Lake Sediments Project Draft 100 Percent Design Package, Revision 0, Foster Wheeler Environmental Corp 10/14/1998

1998 (Con't)

- Stage II Haul Roads 100 Percent Design Package Revision 1 Replacement Pages: Cover Sheet of Appendix B, Construction Quality Assurance Plan (CQAP); Table 1 of Appendix B, CQAP; Attachment 1 of Appendix B, CQAP; Division 2 Cover Sheet of Appendix D, Technical Specifications; and Page 02510-4 of Appendix D, Technical Specifications, Shell Oil Co, Foster Wheeler Environmental Corp 09/24/1998
- (Replacement Pages) Existing (Sanitary) Landfill Remediation Project, 100 Percent Design Package, Design Analysis, Revision Number 1 10/01/1998
- Miscellaneous Northern Tier, Miscellaneous Southern Tier, and Lake Sediments Project, 100 Percent Design Package, Rocky Mountain Arsenal (CO) Remediation Venture, Foster Wheeler Environmental Corp 10/00/1998
- RCRA Equivalent Cover Demonstration Project Construction Completion Report (CCR) Final, Foster Wheeler Environmental Corp 12/1998
- Confined Flow System (CFS) Well Closure Final (100 Percent) Design Report, Undefined Shell Oil Co, Foster Wheeler Environmental Corp 12/15/1998

1999

- Confined Flow System Well Closure Final (100 Percent) Design Report (Updated with Appendix H - RVO Responses to CDPHE Comments), Shell Oil Co, Black & Veatch 01/1999
- Section 36 Bedrock Ridge Groundwater Plume Extraction System 100 Percent Design Package (Includes Project Plans: Contractor Health and Safety Plan Requirements, and Construction Quality Assurance Plan (CQAP)), Shell Oil Co, Foster Wheeler Environmental Corp 03/1999
- Toxic Storage Yards Soil Remediation Project 100 Percent Design Analysis Package, Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 03/1999
- Section 36 Bedrock Ridge Groundwater Plume Extraction System 100 Percent Design Package, Shell Oil Co 03/1999
- Addenda and Clarifications to the 03/00/1999 Section 36 Bedrock Ridge Groundwater Plume Extraction System 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp, 05/21/1999
- Existing (Sanitary) Landfill Remediation Project Health and Safety Requirements 100 Percent Design Package, Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp, 03/24/1999
- Toxic Storage Yards Soil Remediation Project 100 Percent Design Package (Includes Project Plans: Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), Site Specific Air Monitoring, Haul Road Operations, Borrow Area, Stormwater and Erosion Control Management, and Chemical Agent Screening), Rocky Mountain Arsenal (CO) Remediation Venture, Foster Wheeler Environmental Corp 03/1999
- Existing (Sanitary) Landfill Remediation Project Health and Safety Requirements Project, Section 4 Landfills, Recovered Chemical Warfare Materiel (RCWM) Safety Plan (Appendix B of the Health and Safety Requirements 100 Percent Design Package), Shell Oil Co, Foster Wheeler Environmental Corp, 04/05/1999

1999 (Con't)

- Final RMA Offpost Well Abandonment Construction Completion Report (CCR), Shell Oil Co, Morrison Knudsen Corp 05/26/1999
- Final RMA Offpost Well Abandonment Construction Completion Report (CCR) (Updated with certification page (Section 10.0, page 16) Signed 09/20/1999 by Charles Scharmann) 07/09/1999
- Final Construction Completion Report (CCR) for the Supplemental Operational Monitoring Well Installation Project, Shell Oil Co, Foster Wheeler Environmental Corp 07/30/1999
- Lower Derby Lake Shoreline Expansion Project 100 Percent Design Package (Includes Plans: Health and Safety Requirements and Construction Quality Assurance Plan (CQAP)), Shell Oil Co, Foster Wheeler Environmental Corp 07/1999
- South Plants Structure Demolition and Removal - Phase 2 100 Percent Design Package (Includes plans Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), Chemical Agent Materiel Screening and Recovered Chemical Warfare Materiel (RCWM) Safety), Shell Oil Co, Foster Wheeler Environmental Corp 08/1999
- RMA 100 Percent Design Corrective Action Management Unit (CAMU) Soils Remediation Completion and Support Project Statement of Work (SOW), Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 08/26/1999
- South Plants Structure Demolition and Removal - Phase 2 100 Percent Design Package Construction Quality Assurance Plan (CQAP), Revision C, Shell Oil Co, Arcadis Geraghty & Miller Team, Los Alamos Technical Assoc Inc 08/31/1999
- SACWSD Henderson Pipeline Construction Completion Report (CCR) (Final), Shell Oil Co, Foster Wheeler Environmental Corp 09/27/1999
- Miscellaneous Northern Tier Soil Remediation Project Construction Completion Report (CCR), Revision B, Shell Oil Co, Foster Wheeler Environmental Corp 10/1999
- South Plants Structure Demolition and Removal Phase 2 (100 Percent) Design Package (Final) (Includes plans: Subcontractor Health / Safety Requirements, Construction Quality Assurance Plan (CQAP), Chemical Agent Materiel Screening, and Recovered Chemical Warfare Materiel (RCWM) Safety) (updated with 03/09/2000 replacement pages), Shell Oil Co, Foster Wheeler Environmental Corp 10/1999
- South Plants Structure Demolition and Removal Phase 2 (100 Percent) Design Package (Final) (Includes plans: Subcontractor Health / Safety Requirements, Construction Quality Assurance Plan (CQAP), Chemical Agent Materiel Screening, and Recovered Chemical Warfare Materiel (RCWM) Safety), Shell Oil Co, Foster Wheeler Environmental Corp 10/1999
- Lake Sediments Remediation Project Draft Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 11/1999

1999 (Con't)

- Burial Trenches and Munitions (Testing) Soil Remediation Draft 100 Percent Design Package Design Analysis for Internal RVO, Review, Revision D, Shell Oil Co, Foster Wheeler Environmental Corp 11/12/1999
- Specification Section 02444 Groundwater Extraction Trench and Well, Revision 2 (for the 09/1997 Complex Trenches and Shell Section 36 Trenches Groundwater Barrier (Slurry Wall) Project 100 Percent Design Package), Shell Oil Co, Black & Veatch 11/30/1999
- Burial Trenches and Munitions (Testing) Soil Remediation Project Phase 1 100 Percent Design Package (Final) (Includes plans: Construction Quality Assurance (CQAP), Project Completion, and Borrow Area 10 and Site ESA-SC Chemical Agent Materiel Screening - Updated with the 02/01/2000 Addendum Number 1), Shell Oil Co, Foster Wheeler Environmental Corp 12/1999
- Burial Trenches and Munitions (Testing) Soil Remediation Project Phase 1 100 Percent Design Package (Final) (Includes Plans: Construction Quality Assurance (CQAP), Project Completion, and Borrow Area 10 and Site ESA-3C Chemical Agent Materiel Screening), Shell Oil Co, Foster Wheeler Environmental Corp 12/1999

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- Miscellaneous RMA Structure Demolition and Removal Project 100 Percent Design Package Design Analysis for Structures Classified as Agent History, Other Contamination History, and Significant Contamination History in the Record of Decision (ROD), Revision G, Shell Oil Co, Foster Wheeler Environmental Corp 12/22/1999
- Existing (Sanitary) Landfill Remediation Section One (1) Construction Completion Report (CCR), Revision 0 (Final), Morrison Knudsen Corp 01/28/2000
- Miscellaneous Northern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 02/2000
- Lake Sediments Remediation Project Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 02/2000
- Miscellaneous Southern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 02/2000
- Addendum Number One (1) to the 12/00/1999 Final Burial Trenches and Munitions (Testing) Soil Remediation Project Phase 1 100 Percent Design Package (replacement pages), Shell Oil Co, Foster Wheeler Environmental Corp 02/01/2000
- Corrective Action Management Unit (CAMU) Soils Remediation Completion and Support Project Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 02/2000
- Existing (Sanitary) Landfills Remediation Section 4 Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 03/15/2000

2000 (Con't)

- Lake Sediments Remediation Project Construction Completion Report (CCR), Revision 1 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project - Phase 1 (Final 100 Percent) Design Package (Includes plans: Construction Quality Assurance Plan (CQAP), Chemical Agent Materiel Screening, Recovered Chemical Warfare Materiel (RCWM) Safety, and Project Completion), Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- Miscellaneous Northern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 1 (Updated Revised Final), Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- Lake Sediments Remediation Project Construction Completion Report (CCR), Revision 1 (updated Revised Final), Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- Attachment 1 - Recovered Chemical Warfare Materiel (RCWM) Integrated Air Monitoring Procedure (for Appendix L RCWM Safety Plan in the 03/00/2000 South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase 1 (Final 100 Percent) Design Package), Shell Oil Co, Foster Wheeler Environmental Corp 03/24/2000
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project - Phase 1 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- Replacement pages per the 12/08/1999 EPA Comments on the 10/00/1999 South Plants Structure Demolition and Removal Phase 2 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 03/09/2000
- Interior Building Chemical Related Activities for South Plants Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 03/14/2000
- Miscellaneous Northern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 1 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 03/2000
- Existing (Sanitary) Landfills Remediation Section 4 Construction Completion Report (CCR), Revision 1 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 04/17/2000
- Existing (Sanitary) Landfill Remediation Section One (1) Construction Completion Report (CCR), Revision 1, Foster Wheeler Environmental Corp 4/24/2000
- Miscellaneous Southern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 1, Shell Oil Co, Morrison Knudsen Corp, 05/2000
- Final Confined Flow System Well Closure Construction Completion Report (CCR), Shell Oil Co, Foster Wheeler Environmental Corp 06/15/2000
- Miscellaneous Southern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 1 (Updated with missing 02/00/2000 Revision 0

2000 (Con't)

- attachments and last page of the CCR Log From Attachment 2), Shell Oil Co, Foster Wheeler Environmental Corp 06/2000
- Existing (Sanitary) Landfills Remediation Section 4 Construction Completion Report (CCR), Revision 2, Shell Oil Co, Foster Wheeler Environmental Corp 07/19/2000
- South Plants Structure Demolition and Removal Project Phase 1 Construction Completion Report (CCR), Revision 0, Dames & Moore 07/2000
- Secondary Basins Soil Remediation Project Part 1 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 08/00/2000
- Final RCRA Equivalent Cover Demonstration Project Construction Completion Report (CCR), Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 08/2000
- Landfill Wastewater Treatment System (LWTS) Project Construction Completion Report (CCR), Revision 1 (Final), Shell Oil Co, Dept of the Army 08/31/2000
- Secondary Basins Soil Remediation Project Part 1 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 08/04/2000
- Basin F / Basin F Exterior Remediation Project Part 1 100 Percent Design Package (Includes Plans: Health and Safety, Construction Quality Assurance Plan (CQAP), and Project Completion), Shell Oil Co, Foster Wheeler Environmental Corp 08/00/2000
- Secondary Basins Soil Remediation Project Part 1 100 Percent Design Package (Includes Plans: Health and Safety, Construction Quality Assurance Plan (CQAP), and Project Completion), Shell Oil Co, Foster Wheeler Environmental Corp 08/00/2000
- Complex Army Trenches Groundwater Barrier Project Draft Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 09/13/2000
- Final Corrective Action Management Unit (CAMU) Soils Remediation Completion and Support Project Construction Completion Report (CCR), Shell Oil Co, Foster Wheeler Environmental Corp 09/2000
- South Plants Structure Demolition and Removal Project Phase 1 Final Construction Completion Report (CCR) Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 09/2000
- Draft Buried M-1 Pits Soil Remediation Project 100 Percent Design Analysis, Shell Oil Co, Foster Wheeler Environmental Corp 12/08/2000
- RMA Sanitary and Chemical Sewer Plugging Project Construction Completion Report (CCR) (Updated with Appendices from the 08/03/1998 CCR), Shell Oil Co, Foster Wheeler Environmental Corp 09/30/1998
- Final Interior Building Chemical Related Activities for South Plants Construction Completion Report (CCR) Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 09/08/2000

2000 (Con't)

- Final Lake Ladora Dam Reconstruction Project Construction Completion Report (CCR), Shell Oil Co, Washington Group International 09/2000
- Section 26 Human Health Exceedance (HHE) and Biota Exceedance Soils Removal Project Construction Completion Report (CCR) Revision 0 (Final), Gannett Fleming Inc 09/ 2000
- RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS), Shell Oil Co, Foster Wheeler Environmental Corp 10/2000
- Explanation of Significant Differences (ESD) for South Plants Balance of Areas and Central Processing Area Soil Remediation Project RMA Federal Facility Site (Fully Executed) 11/10/2000
- Explanation of Significant Differences (ESD) for Chemical Sewer Remediation (Section 35 and Section 26) RMA Federal Facility Site (Fully Executed), Dodson, Max H. Environmental Protection Agency, Roitman, Howard A. Colorado Dept Of Public Health & Environment, Scharmann, Charles T. Program Manager Rocky Mountain Arsenal (CO) 11/10/2000
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase 2 100 Percent Design Package, Revision F, Shell Oil Co, Foster Wheeler Environmental Corp 12/11/2000

2001

- Final M-1 Pits Soil Remediation Project Construction Quality Assurance Plan (CQAP) 100 Percent Design, Revision 1, Dodson, Max H. Environmental Protection Agency, Roitman, Howard A. Colorado Dept of Public Health & Environment, Scharmann, Charles T. Program Manager Rocky Mountain Arsenal (CO) 02/01/2001
- Final Buried M-1 Pits Soil Remediation Project 100 Percent Design Analysis (Updated with the 02/01/2001 Final M-1 Pits Soil Remediation Project Construction Quality Assurance Plan (CQAP), 100 Percent Design, Revision 1 and Figures 15006-01 and 15006-02 for Specification 15006), Shell Oil Co, Foster Wheeler Environmental Corp 01/25/2001
- Hex Pit Remediation Draft 100 Percent Design Analysis Report, Shell Oil Co, Foster Wheeler Environmental Corp, 02/2001
- Destruction of Equipment in the GB (Sarin) Production and Fill Facilities 100 Percent Design Analysis, Revision C, Program Manager Rocky Mountain Arsenal (CO), Terratherm 03/29/2001
- Munitions (Testing) Soil Remediation Project Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 03/01/2001
- Hex Pit (Soil) Remediation Final 100 Percent Design Package (Includes plans: Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), Project Completion, Simulation Modeling Report, and Final Field Trial), Shell Oil Co, Foster Wheeler Environmental Corp 03/2001

2001 (Con't)

- Complex Army Trenches Groundwater Barrier Project Construction Completion Report (CCR), Revision 0 (Final), Program Manager Rocky Mountain Arsenal (CO), Terratherm 03/22/2001
- Final Hazardous Waste Landfill Phase II Project Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 03/21/2001
- Hex Pit (Soil) Remediation Final 100 Percent Design Package (Updated with the 03/27/2001 Record of Decision (ROD), Implementation Schedule, for Appendix G), Shell Oil Co, Foster Wheeler Environmental Corp 03/2001
- Destruction of Equipment in the GB-(Sarin) Production and Fill Facilities Project 100 Percent Design Package, Revision 0 (Includes plans, Subcontractor Health and Safety Requirements, Construction Quality Assurance Plan (CQAP), and Recovered Chemical Warfare Materiel (RCWM) Safety), Shell Oil Co, Foster Wheeler Environmental Corp 04/12/2001
- Complex Army Trenches Groundwater Barrier Project Construction Completion Report (CCR), Revision 1 (Final), Program Manager Rocky Mountain Arsenal (CO), Terratherm 04/30/2001
- Shell Section 36 Trenches Groundwater Barrier Project Construction Completion Report (CCR), Revision 0 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 05/16/2001
- Munitions (Testing) Soil Remediation Project Construction Completion Report (CCR), Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 05/21/2001
- North Plants Structure Demolition and Removal Project 100 Percent Design Package, Revision G, Shell Oil Co, Foster Wheeler Environmental Corp 06/14/2001
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase 2 100 Percent Design Package Volume 1 (Includes plans: Sample Results Report, Construction Quality Assurance Plan (CQAP), and Chemical Agent Materiel Screening), Shell Oil Co, Foster Wheeler Environmental Corp 06/2001
- Excerpts from the 07/13/2001 North Plants Structure Demolition and Removal Project 100 Percent Design Analysis, Revision 0, Addressing Asbestos Assessment, Abatement, or Disposal Activities, Dodson, Max H. Environmental Protection Agency, Roitman, Howard A. Colorado Dept of Public Health & Environment, Scharmann, Charles T. Program Manager Rocky Mountain Arsenal (CO) 07/13/2001
- Operation and Maintenance (O&M) Asbestos Remediation Projects Construction Completion Report (CCR), Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 07/26/2001
- Operations and Maintenance (O&M) Asbestos Remediation Projects Final Construction Completion Report (CCR), Revision 1, Beardslee, Richard L. Program Manager Rocky Mountain Arsenal (CO) 10/30/2001
- Final Remediation Design and Implementation Schedule (RDIS) Annual Update FY00/01/2002 (FY2002) (Appendix G) and minor corrections to Appendix B –

2001 (Con't)

- Project Descriptions, Shell Oil Co, Foster Wheeler Environmental Corp 10/2001
- RMA Remediation Design and Implementation Schedule (RDIS) 10/18/2001 Update 10/18/2001
- Final Explanation of Significant Difference (ESD) for Endrin Containment System Remediation Goal (CSRQ) in On-Post and Off-Post Records of Decision (ROD) for RMA Federal Facility Site (Fully Executed), Beardslee, Richard L. Program Manager Rocky Mountain Arsenal (CO) 11/12/2001
- Secondary Basins Soil Remediation Project Human Health Exceedance (HHE) Soil Removal Draft Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 11/01/2001
- South Plants Structure Demolition and Removal Project Phase 2 Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 12/12/2001
- RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS), Fish & Wildlife Service, Shell Oil Co, Arcadis Geraghty & Miller Team, Los Alamos Technical Assoc Inc 12/2001
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase 1 Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 12/12/2001

2002

- Final Explanation of Significant Differences (ESD for Secondary Basins B, C and D Remediation RMA Federal Facility Site, Rocky Mountain Arsenal (CO) Remediation Venture 01/24/2002
- Miscellaneous Northern Tier Soil Remediation Project Construction Completion Report (CCR), Revision 2, Fish & Wildlife Service, Shell Oil Co, Foster Wheeler Environmental Corp 02/2002
- Section 35 Soil Remediation Project Draft 100 Percent Design Package Design Analysis for RVO / PMC Internal Review, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 02/14/2002
- Section 35 Soil Remediation Project 100 Percent Design Package (Includes plans: Health / Safety, Construction Quality Assurance Plan (CQAP), and Project Completion), Shell Oil Co, Foster Wheeler Environmental Corp 02/2002
- Errata / Replacement Pages for the 02/00/2002 Section 35 Soil Remediation Project 100 Percent Design Package, Shell Oil Co, Foster Wheeler Environmental Corp 03/19/2002
- Section 35 Soil Remediation Project 100 Percent Design Package (Updated with 03/19/2002 Errata / Replacement Pages), Foster Wheeler Environmental Corp 02/2002
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase 1 Construction Completion Report (CCR), Appendix F, Soil Excavation / Volume Verification Calculations, Shell Oil Co, Foster Wheeler Environmental Corp 03/11/2002

2002 (Con't)

- Buried M-1 Pits Soil Remediation Project Final Construction Completion Report (CCR), Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 03/07/2002
- South Plants Structure Demolition and Removal Project Phase 2 Construction Completion Report (CCR), Revision 0 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 03/05/2002
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project - Phase 1 Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 03/11/2002
- Existing (Sanitary) Landfill Remediation Project 100 Percent Design Package Technical Specifications, Shell Oil Co, Foster Wheeler Environmental Corp 04/02/2002
- Buried M-1 Pits Soil Remediation Project Construction Completion Report (CCR), Revision 0 (Updated with signed Certification Page), Foster Wheeler Environmental Corp 04/09/2002
- Munitions (Testing) Soil Remediation Project Construction Completion Report (CCR) Part I, Revision 2, Foster Wheeler Environmental Corp 04/09/2002
- Burial Trenches Soil Remediation Project Construction Completion Report (CCR) Part I, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 04/24/2002
- Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Analysis, Revision J, Shell Oil Co, Foster Wheeler Environmental Corp 05/30/2002
- Miscellaneous RMA Structure Demolition and Removal Project Phase 1 Construction Completion Report (CCR), Revision 0 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 06/2002
- Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Analysis, Volume I (Includes plans: Health / Safety, Construction Quality Assurance Plan (CQAP), Project Completion, and Leachate Compatibility Testing Report), Shell Oil Co, Foster Wheeler Environmental Corp 07/25/2002
- Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Analysis, Volume III (Calculations), Shell Oil Co, Foster Wheeler Environmental Corp 07/25/2002
- Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Analysis, Volume II (Calculations) 7/25/2002
- Signed Cover Page for the Enhanced Hazardous Waste Landfill (ELF) 100 Percent Design Analysis, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 07/25/2002
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase I - Construction Completion Report (CCR), Revision 0 (Final), Shell Oil Co, Foster Wheeler Environmental Corp 08/19/2002
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project Phase I - Construction Completion Report (CCR) Appendix F Soil

2002 (Con't)

- Excavation / Volume Verification Calculations (Final), Shell Oil Co, Foster Wheeler Environmental Corp 08/19/2002
- Basin F Wastepile Remediation Project 100 Percent Design Package, Revision F, Foster Wheeler Environmental Corp 09/11/2002
- Final Burial Trenches Soil Remediation Project Construction Completion Report (CCR) Part I, Revision 1, Shell Oil Co, Foster Wheeler Environmental Corp 09/24/2002
- Basin F Wastepile Remediation Project 100 Percent Design Package, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 11/04/2002
- RMA Record of Decision (ROD) for the On-Post Operable Unit (OU) Remediation Design and Implementation Schedule (RDIS), Shell Oil Co, Foster Wheeler Environmental Corp 11/00/2002

2003

- Administrative Area Asbestos Remediation Projects Final Construction Completion Report (CCR) Revision 4 (Revised) Washington Group International 01/14/2003
- Irondale Containment System Shut Down for Irondale Extraction System Final Construction Report (CCR) Revision 0 Washington Group International 04/2003
- Amendment to the Record of Decision (ROD) for the On-Post Operable Unit, RMA Federal Facility Site Hex Pit Remediation Final, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 04/09/2003
- Explanation of Significant Differences (ESD) for Section 36 Balance of Areas (BOA) Soil Remediation Project 100 Percent Design Package. Revision 0. Foster Wheeler Environmental Corp. 04/24/2003
- Explanation of Significant Differences (ESD) for Section 36 Balance of Areas (BOA) Soil Remediation Project Final, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 04/29/2003
- Miscellaneous RMA Structure Demolition and Removal Project Phase I Construction Completion Report (CCR) Foster Wheeler Environmental Corp 05/2003
- Draft Miscellaneous RMA Structure Demolition and Removal Project 100 Percent Design Package Design Analysis for Structures Classified as Agent History, Other Contamination History, and Significant Contamination History in the Record of Decision (ROD), Shell Oil Co, Foster Wheeler Environmental Corp 06/13/2003
- Section 36 Balance of Areas (BOA) Soil Remediation Project 100 percent Design Package Design Analysis Revision 1 (Revisions only includes Table of Changes) Foster Wheeler Environmental Corp. 06/13/2003
- Section 36 Balance of Areas (BOA) Soil Remediation Project 100 Percent Design Package Design Analysis, Revision 1 (Revisions only include Table of Changes) Foster Wheeler Environmental Corp. 06/17/2003
- North Plants Structure Demolition and Removal Remediation Project Construction Completion Report (CCR) Draft, Revision B, Shell Oil Co, Wheeler Environmental Corp 07/24/2003

2003 (Con't)

- Enhanced Hazardous Waste Landfill (ELF) Contingent Contaminated Stormwater Control System 100 Percent Design Analysis, Foster Wheeler Environmental Corp. 08/07/2003
- South Plants Balance of Areas and Central Processing Area Soil Remediation Project - Phase 2 Construction Completion Report (CCR), Revision B, Foster Wheeler Environmental Corp. 08/11/2003
- Hex Pit Soil Remediation Project 100 Percent Design Analysis, Revision F, Shell Oil Co, Foster Wheeler Environmental Corp. 10/02/2003
- RMA Hex Pit Soil Remediation Project Final 100 Percent Design Package, Revision 0, Shell Oil Co, Foster Wheeler Environmental Corp 10/30/2003
- RMA Record of Decision (ROD) for the On-Post Operable Unit Remediation Design and Implementation Schedule (RDIS) (incorrect date on document), Rocky Mountain Arsenal 11/2003
- Appendix B: Project Descriptions to RMA Record of Decision (ROD) for the On-Post Operable Unit Remediation Design and Implementation Schedule (RDIS), Rocky Mountain Arsenal 11/2003
- Appendix I: Remediation Design and Implementation Schedule (RDIS) Annual Update Fiscal Year 00/00/2004 (FY04), Rocky Mountain Arsenal 11/2003
- Burial Trenches Soil Remediation Project Final Construction Completion Report (CCR) Part 1, Revision 2 (Revised 11/25/2003), Foster Wheeler Corp.
- RMA Burial Trenches Soil Remediation Project Final Construction Completion Report (CCR) Part I, Revision 2 (revised with pages transmitted on 07/29/2004), Foster Wheeler Corp. 11/12/2003
- RMA Burial Trenches Soil Remediation Project Final Construction Completion Report (CCR) Part I, Revision 2 (Revised 05/17/2005), Foster Wheeler Corp. 11/12/2003
- RMA Section 35 Soil Remediation Project Construction Completion Report (CCR) (Final), Revision 0, Foster Wheeler Corp. 11/12/2003
- Section 26 Human Health Exceedance (HHE) and Biota Exceedance Soils Removal Project Construction Completion Report (CCR), Addendum 1, Revision A., Shell Oil Co, Foster Wheeler Environmental Corp 12/03/2003
- Existing (Sanitary) Landfill Remediation Section 1 Construction Completion Report (CCR) Addendum 1, Dept of the Army, Fish & Wildlife Service, Shell Oil Co 12/03/2003

2004

- RMA Record of Decision (ROD) for the On-Post Operable Unit Remediation Design and Implementation Schedule (RDIS) (Fiscal Year 00/00/2004 (FY04) Update) Fish & Wildlife Service, Shell Oil, Department of the Army 02/2004
- RMA Existing (Sanitary) Landfill Remediation Section 1 Construction Completion Report (CCR) Addendum 1, Revision 0, Dept of the Army, Fish & Wildlife Service, Shell Oil Co 02/2004

2004 (Con't)

- RMA Section 26 Human Health Exceedance(HHE) and Biota Exceedance Soils Removal Project Construction Completion Report (CCR) Addendum 1, Revision 0, Dept of the Army, Fish & Wildlife Service, Shell Oil Co 02/2004
- RMA South Lakes Groundwater Investigation Construction Completion Report (CCR) Revision A, Dept of the Army, Fish & Wildlife Service, Shell Oil Co 02/20/2004
- RMA Hex Pit Soil Remediation Project [Redesign] Draft Construction Completion Report (CCR), Revision A, Shell Oil Co, Foster Wheeler Environmental Corp 03/03/2004
- RMA North Plant (Plants) Structure Demolition and Removal Remediation Project and Destruction of Equipment in the GB Production and Fill Facilities Project, Construction Completion Report (CCR) Revision 0, Tetra Tech FW Inc. 3/18/2004
- RMA Munitions (Testing) Soil Remediation Project Construction Completion Report (CCR) Part 1, Revision 5 (Revised), Tetra Tech FW Inc. 3/26/2004
- RMA Munitions (Testing) Soil Remediation Project Construction Completion Report (CCR) Part 1, Revision 5 (revised with pages transmitted on 07/29/2004), Tetra Tech FW Inc. 3/26/2004
- RMA Shutdown Monitoring for the Motor Pool Extraction System Construction Completion Report (CCR), Revision A, Dept of the Army, Fish & Wildlife Service, Shell Oil Co, Washington Group International 04/07/2004
- RMA Remediation Design and Implementation Schedule (RDIS 04/08/2004 Update) 4/8/2004 RMA Section 36 Existing (Sanitary) Landfills Remediation Project, Construction Completion Report (CCR) Revision 0, Shell Oil Co, Tetra Tech FW Inc 04/09/2004
- RMA Section 35 Soil Remediation Project Construction Completion Report (CCR), Revision 1, Tetra Tech FW Inc., 4/13/2004
- Section 35 Soil Remediation Project Construction Completion Report (CCR), Revision 1 (Revised 05/18/2004, 06/22/2004, and 10/14/2004) Tetra Tech Inc., 4/13/2004
- RMA Secondary Basins Soil Remediation Project Construction Completion Report (CCR), Revision 1, Tetra Tech FW Inc. 4/13/2004
- RMA Termination of Operations at the Groundwater Intercept and Treatment System North of Basin F Well Construction Completion Report (CCR) Final, Tetra Tech FW Inc., 06/2004
- RMA Hex Pit Soil Remediation Project [Redesign] Construction Completion Report (CCR), Revision 0, Tetra Tech FW Inc., 06/08/2004
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Rocky Mountain Arsenal

Installation Restoration Program

Site Descriptions

A-A BASIN A NECK SYSTEM

SITE DESCRIPTION

The Basin A Neck System is an interior treatment facility. It treats the A-A plume, A-S36BR plume, A-SPN plume and in the past it treated the North of Basin F plume. Contaminated groundwater flow in the South Plants North Plume and the Basin A Plume occurs principally within saturated alluvium, with lesser flow through the underlying weathered bedrock. However, in the Section 36 Bedrock Ridge area, the water table generally lies below the alluvium and groundwater flows predominantly within weathered bedrock. Total groundwater flow through this area is ~ 20 gpm. The major contaminants detected in the Basin A Plume Group are chloroform, organosulfur compounds related to mustard agent and herbicides, organophosphorus compounds related to pesticides, methylene chloride, DIMP, TCE, DBCP, arsenic, mercury, and benzene.

New Basin A Neck Recharge Trenches were constructed in FY04 to provide sufficient recharge capacity. The initial trenches were subjected to fouling by manganese extracted from the Bedrock Ridge, and Complex Trench areas, and treated at Basin A Neck. The treatment plant process was also modified in 2004 to provide air stripping to the total Basin A Neck influent stream. Carbon and air stripping are the primary treatment processes.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198410	199606
IRA	198901	199007
RD	198901	199612
RA(C)	198906	199612
RA(O)	199612	203709

RIP: 199612

RC: Indefinite

CLEANUP STRATEGY

Operation of the Basin A Neck system continues within effluent parameters at approximately 20 gpm. This includes a flow from the Section 36 Bedrock Ridge Groundwater Plume Extraction System of approximately 5 gpm and a flow from the Complex (Army) Disposal Trench-Extraction Trench of approximately 1.5 gpm. The Basin A Neck System treats AEDB-R sites A-S36BR (Basin A/Section 36 Bedrock Ridge Plumes), A-A (Basin A/Basin A Plume), and A- SPN (Basin A/South Plants North Plume).

The groundwater treatment system will be operated until remedial objectives (ROD requirements) are met (estimated cost includes operation until 2037, and refurbishing every 10 years). However, operations are expected to continue indefinitely.

A-S36BR

BASIN A/SECTION 36 BEDROCK RIDGE PLUMES BASIN A NECK SYSTEM

SITE DESCRIPTION

The Basin A Neck System is an interior treatment facility. It treats the A-A plume, A-S36BR plume, A-SPN plume and in the past it treated the North of Basin F plume. The level of contaminants in the North of Basin F plume had decreased to where treatment was ineffective. Contaminated groundwater flow in the South Plants North Plume and the Basin A Plume occurs principally within saturated alluvium, with lesser flow through the underlying weathered bedrock. However, in the Section 36 Bedrock Ridge area, the water table generally lies below the alluvium and groundwater flows predominantly within weathered bedrock. The major contaminants detected in the Basin A Plume Group are chloroform, methylene chloride, DIMP, TCE, DBCP, and benzene.

The Bedrock Ridge project (A-S36BR) prevents contaminated groundwater from migrating beyond the Bedrock Ridge area. Remediation involves groundwater extraction facilities to intercept and treat the Section 36 Bedrock Ridge Groundwater Plume. This was accomplished by connecting to existing facilities (Basin A Neck System). This project construction was completed in February 2000. The final Construction Completion Report (CCR) was submitted to the regulatory agencies in FY06, and is still pending until the system is shown to be fully capturing the plume.

CLEANUP STRATEGY

Operation of the Basin A Neck system continues. Future costs associated with this site will be consolidated under site A-A.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197612	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199606	199612
RA(C)	199903	200003
RA(O)	199903	200609

RIP: 200003

RC: 200609

A-SPN

BASIN A/SOUTH PLANTS NORTH PLUME BASIN A NECK SYSTEM

SITE DESCRIPTION

This plume was one of three being treated at the Basin A Neck System. Biological enhancement was installed to treat any residual contaminants in the North of Basin F plume. Contaminated groundwater flow in the South Plants North Plume and the Basin A Plume occurs principally within saturated alluvium, with lesser flow through the underlying weathered bedrock

The completed Construction Completion Report for the North of Basin F Plume was signed by EPA FY2006. This portion of the plume cleanup was accelerated by in-situ use of hydrogen release compound at the North Boundary.

CLEANUP STRATEGY

Operation of the Basin A Neck system continues. Future costs associated with this site will be consolidated under site A-A.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199510
IRA	198901	199007
RD	198910	199606
RA(C)	199007	199606
RA(O)	199606	200609

RIP: 199606

RC: 200609

CERCLA-LW

CERCLA LIQUID WWT PLANT

CERCLA WASTEWATER TREATMENT FACILITY

SITE DESCRIPTION

The CERCLA WWT Plant receives water from a variety of sources, including: well purge water, rainwater from secondary containment at CERCLA, RMA lab waste, USGS sampling equipment decon water, CERCLA dual media backwash water, CERCLA filter press filtrate, CERCLA oil/water separator water, vehicle decon, Basin A truck decon water, and miscellaneous water from remediation projects. In FY06, CERCLA WWTP will receive contaminated groundwater from the Lime Basins and South Tank Farm areas.

The discharge flow averages 500,000 to 1.5 million gallons per year. The majority of the effluent goes to the Basin A Neck recharge system.

CLEANUP STRATEGY

LTM is planned through the end of RA(C) for the installation. The CERCLA Plant is scheduled for demolition in FY11.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, POL, DIMP, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI	197601	198410
RI	198401	199510
IRA.....	198705	199207
RD	199006	199510
RA(C).....	199107	199606
LTM	199606	201103

RC: 199606

CSA-1A

DISPOSAL TRENCHES – SHELL TRENCHES

SHELL DISPOSAL TRENCHES REMEDIATION

SITE DESCRIPTION

This project addresses the Shell Trenches, a subgroup within the Disposal Trenches Medium Group. This site contains approximately 18 trenches that were filled with a variety of solid and liquid wastes from Shell production facilities. Wastes were buried both in bulk form and in drums from 1952 through 1966. Due to the presence of high contamination levels, containerized waste, and historical evidence as a previous source of groundwater contamination, the entire site was considered a principle threat.

The historical contamination has been contained as part of the Shell Trenches IRA. A vertical barrier was installed in 1988 around the site to reduce the migration of contaminated groundwater away from the site, and a soil cover was placed over the site to reduce rainwater infiltration through the contaminated area. The soil cover is approximately 3 feet thick and has been vegetated with native grasses. However, the vegetation types and the maintenance activities conducted at the site are designed to discourage burrowing animals from using the area for habitat.

A slurry wall was installed in 1998 (Phase 1 of the final remedy).

The disposal trenches themselves contain elevated levels of chlordane, OCPs, HCCPD and DBCP (pesticides and byproducts), which are encountered to a depth of 10 feet. In addition to the COCs identified in the trenches, numerous non-target compounds are identified at concentrations as high as 40,000 ppm. Army agent-related compounds were also detected in soil samples and from nearby monitoring wells.

CLEANUP STRATEGY

Implementation of Phase II of this project will commence upon approval of the 100% Design Document from regulatory agencies which includes closing the Shell disposal trenches by placing a RCRA-equivalent cover. It will also include an 18-inch-thick crushed concrete or cobble burrowing animal barrier and soil to establish and support vegetation, over the Shell Trenches and slurry wall spoil (started in FY05). Re-establishing permanent vegetation over the disturbed remediation and borrow areas, engineering controls and LTM will then be necessary. LTM will include cover maintenance, periodic evaluation of vegetation and infiltration. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

STATUS

REGULATORY DRIVER: CERCLA
RRSE: Low

CONTAMINANTS OF CONCERN:
Pesticides

MEDIA OF CONCERN:
Groundwater, Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
IRA	198809	199112
RD	199606	199612
RA(C)	199804	201107
LTM	201110	204109
RC: 201107		

DISPOSAL TRENCHES – COMPLEX ARMY TRENCHES COMPLEX (ARMY) TRENCHES REMEDIATION

SITE DESCRIPTION

The Complex (Army) Trenches is a subgroup within the Disposal Trenches Medium Group. This site contains soil and debris disposed in a series of trenches. The trenches were investigated during the RI and were found to contain trash and manufacturing/ military waste including scrap metal, bricks, concrete and asphalt rubble, empty and full glass bottles, white phosphorous, containerized wastes, burned incendiary device casings, agent, and agent-filled MEC.

The trench areas are considered principle threat areas down to a depth of approximately 14 feet. In addition, contaminated soil outside of the anomalous trench areas contains chlordane exceeding acceptable human health risk level, generally within the 0 to 1 foot depth interval. A large quantity of soil outside the trench areas contains COCs and may pose potential risk to biota. The site is located in an area of disturbed vegetation types.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:

Metals, Pesticides, White Phosphorous

MEDIA OF CONCERN:

Groundwater, Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
IRA	199010	199412
RD	199606	199612
RA(C)	199804	201107
LTM	201110	204109

RC: 201107

CLEANUP STRATEGY

Implementation of Phase II of this project includes closing the Complex (Army) disposal trenches by placing a RCRA-equivalent cap, including 18 inches of concrete and sufficient soil to establish and support vegetation over the Complex Trenches and slurry wall spoil. This design is part of the Integrated Cover System Design expected to be finalized in FY06.

After re-establishing permanent vegetation over the disturbed remediation and borrow areas, implementation of engineering controls and LTM will be necessary. LTM will include cover inspection and maintenance, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

ENHANCED HAZARDOUS WASTE LANDFILL

SITE DESCRIPTION

The triple lined Enhanced Landfill Cell is a 37 acre site and is located in the western portion of Section 25. The enhanced hazardous waste landfill is the keystone project in the middle years of the RMA remedy. Two separate projects are dependent upon the enhanced landfill's availability to accept remediation wastes. In addition, the Former Basin F Principle Threat Soil project is dependent upon the enhanced landfill, as this project may not be accomplished until the Basin F Wastepile has been relocated into the enhanced landfill. None of these two projects may begin until the ELF is ready for operations.

To construct the ELF, a site study, as approved in the final CAMU document, was performed (in 2002) as well as a chemical compatibility-testing program to document long-term performance of the compact clay liners.

Two triple lined cells in Section 25 were constructed. The total capacity of the Enhanced Landfill is approximately 1,200,000 bcy. Currently, the ELF is scheduled to begin receiving waste in April 2006. All waste placed in the ELF will be tracked in the On Site Waste Tracking Database.

This site was added to AEDB-R upon approval from USAEC because the landfill will have LTM costs upon closure. No other phases are associated with this site.

CLEANUP STRATEGY

Once the ELF is filled, a RCRA equivalent cover will be constructed. This cover system will include placing an 18-inch layer of crusher concrete as a human/biota barrier and then establishing the vegetation over the landfill and borrow areas. Costs for the placement of waste and construction of the cover are included in the CTC under each site (primarily Basin F) contributing waste to the ELF.

LTM will include cover inspection and maintenance, groundwater monitoring, leachate collection and treatment, leak detection, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely. LTM costs will be tracked under ELF.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Not Evaluated

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None

PHASES	Start	End
PA.....	199612	199612
LTM	201106	204106

RC: 199612

FWASTEPILE BASIN F WASTEPILE BASIN F WASTEPILE REMEDIATION

SITE DESCRIPTION

This project consists of the Basin F Wastepile, a subgroup of the Basin F Medium Group that was formed as a result of the Basin F IRA. The IRA included incineration of Basin F liquids, excavation of Basin F soil from below the original asphalt liner, and the final grading, capping, and revegetation of the excavated area.

The Basin F Wastepile consists of excavated sediment and soil that are contaminated with organic compounds, arsenic, and metals at concentrations exceeding human health and principle threat criteria. The total concentrations of organics are approximately 1,000 to 10,000 ppm. This material also contains elevated levels of salts due to the high chloride content in the wastewater stored in the former Basin F.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA	197601	198410
SI	197601	198410
RI	198401	199606
IRA	198801	198905
RD	199606	199612
RA(C)	200405	200810

RC: 200810

CLEANUP STRATEGY

The Basin F Wastepile soil and debris in Section 26, including bottom liners, must be excavated and moved to the ELF. Soils with contaminants exceeding the USEPA's paint filter test will be treated in an enclosed structure to meet the standard. Volatile and semivolatile organic compounds released during the drying process will be recovered and treated. The wastepile materials will be disposed of in a dedicated cell(s) at the ELF. Vapors and odors will be controlled at every stage of the remediation using appropriate construction measures. The cell will be backfilled with clean soil borrowed from other RMA areas and graded as necessary to provide adequate drainage and to control erosion. Establishment of vegetation over the borrow areas will complete the project. Funds for the placement of waste and cover construction at ELF are partially programmed in this site.

HWL HAZARDOUS WASTE LANDFILL

SITE DESCRIPTION

The On-Post Hazardous Waste Landfill is a 35 acre site and is located in the western portion of Section 25. It was the keystone project in the early years of the RMA remedy. Nine separate projects were solely dependent upon the landfill's availability to accept hazardous wastes, which are tracked in the On Site Waste Tracking Database. An additional nine projects were dependent upon both the hazardous waste landfill and the Basin A consolidation area. All stored drummed waste will be disposed in the landfill. Cell 1 of the landfill was approved by the regulators to receive waste on April 30, 1999. Construction of Cell 2 was completed and waste placement began in January 2001. As of month end January 2006, a total of 1,750,222 compacted cubic yards of material have been placed in the landfill.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Not Evaluated

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None
(monitoring RCRA equivalent cover)

PHASES	Start	End
PA.....	199612	199612
LTM	200807	203809

RC: 199612

This site was added to AEDB-R upon approval from USAEC because the landfill will have LTM costs upon closure. No other phases are associated with this site.

CLEANUP STRATEGY

The landfill is expected to reach maximum capacity in late FY06 at which time the construction of a RCRA equivalent cover will begin. The cover system will include placing an 18-inch layer of crushed concrete as a human/biota barrier and establishing vegetation over the landfill and borrow areas.

Costs for the placement of waste and construction of the cover are included in the CTC under each site contributing waste to the landfill.

LTM will include cover inspection and maintenance, groundwater monitoring, leachate collection and treatment, leak detection, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely. LTM costs will be tracked under HWL.

N-CF

NORTH/BASINS C&F PLUME

NORTH BOUNDARY CONTAINMENT SYSTEM

SITE DESCRIPTION

The North Boundary Containment System, located in Section 23 and 24, consists of extraction and recharge wells and trenches, a slurry wall, and a carbon adsorption for removal of organics. A modification to the system uses ultraviolet oxidation, following the carbon adsorption treatment, to treat for NDMA. Chloride and sulfates are expected to attenuate naturally. Operation of the North Boundary Containment System continues within effluent parameters at approximately 200gpm. In FY02, two extraction wells were installed to intercept and treat water approximately 2,000 feet south of the current extraction system.

Modifications in FY02 included installation of two extraction wells (South Channel Wells), to intercept and treat water approximately 2,000 feet south of the current extraction system.

CLEANUP STRATEGY

Operation of the North Boundary System continues in compliance with effluent parameters at approximately 200 gpm.

Future costs associated with this site will be consolidated under site N-NP.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197901	198401
RI.....	198601	199510
IRA	198609	199012
RD	197801	199606
RA(C)	199606	199612
RA(O)	199612	200609

RIP: 199612

RC: 200609

N-NP NORTH BOUNDARY CONTAINMENT SYSTEM

SITE DESCRIPTION

The North Boundary Containment System, located in Section 23 and 24, consists of extraction and recharge wells and trenches, a slurry wall, and a carbon adsorption for removal of organics. A modification to the system uses ultraviolet oxidation, following the carbon adsorption treatment, to treat for NDMA. Chloride and sulfates are expected to attenuate naturally. Other contaminants include VOCs, organosulfur compounds related to mustard agent and herbicides, DIMP, organophosphorus Compounds related to pesticides, arsenic, and the anions fluoride.

Operation of the North Boundary Containment System continues within effluent parameters at approximately 200gpm. In FY02, two extraction wells were installed to intercept and treat water approximately 2,000 feet south of the current extraction system.

Modifications in FY02 included installation of two extraction wells (South Channel Wells), to intercept and treat water approximately 2,000 feet south of the current extraction system.

The cleanup of the Basin C&F portion of this plume was accelerated by in-situ use of hydrogen release compound at the North Boundary.

CLEANUP STRATEGY

Operation of the North Boundary System continues within effluent parameters at approximately 200 gpm.

The groundwater treatment system will be operated until remedial objectives (ROD requirements) are met (cost estimated cost includes operation until 2037 and refurbishing every 10 years). However, operations are expected to continue until 209909.

Future costs associated with N-CF are consolidated under this site due to operation of one plant for both sites.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199510
IRA	197801	198001
RD	197801	199606
RA(C)	198001	199612
RA(O)	199612	203709

RIP: 199612
RC: 209909

BASIN A CONSOLIDATION & REMEDIATION (PAGE 1 OF 2)

SITE DESCRIPTION

The Basin A project is a 106 acre area, located in Section 36 within the high-water line of Basin A where manufacturing effluent was received and retained from South Plants via the Lime Settling Basins. Historic waste disposal in Basin A has resulted in elevated salt concentrations in the soil due to its high chloride content.

Basin A can be subdivided into three regions based on differing contaminant types and concentrations. The eastern region is characterized by high concentrations of organochlorine pesticides (OCPs), arsenic, and chromium that exceed acceptable human health risk levels. The southern region is characterized by high concentrations of OCPs, and arsenic that exceed acceptable human health risk levels. The northern region is characterized by low concentrations of OCPs, arsenic, and mercury; however, chlordane is present at concentrations exceeding acceptable human health risk levels. Portions of these three regions contain agent and potentially contain Military Explosive Compounds (MEC). Additionally, parts of Basin A exceed principle threat criteria. Human health and principle threat exceedances may occur to an approximate depth of 8 feet.

Basin A consolidation was a keystone project in the early years of the RMA remedy. Nine separate projects were dependent upon both the Hazardous Waste Landfill and the Basin A Consolidation area. Construction of Basin A Support Facilities was completed in April 1999 and waste placement activities began in May 1999. Basin A's boundary was extended (2003) with DCN-BAOPS-019 to match up with the historic high water line. As of month end January 2006, approximately 3,147,000 compacted cubic yards of waste materials and grade fill have been placed in Basin A.

CLEANUP STRATEGY

Basin A is expected to reach maximum capacity in FY10 at which time the remaining RCRA equivalent cover will be completed. The cover system will include placing an 18-inch layer of crushed concrete as a human/biota barrier and establishing vegetation over the landfill and borrow areas.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, MEC

MEDIA OF CONCERN:
Groundwater, Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199606	199612
RA(C)	199711	201108
LTM	201108	204109

RC: 201108

BASIN A CONSOLIDATION & REMEDIATION (Page 2 of 2)

LTM will include cover inspection and maintenance, groundwater monitoring, infiltration measurements, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

NCSA-1B

LIME BASINS – SETTLING BASINS

SECTION 36 LIME BASINS SOIL REMEDIATION

SITE DESCRIPTION

This project addresses the Section 36 Lime Basins, which are a subgroup within the Lime Basins Medium Group. The Lime Basins subgroup was used for the neutralization of process wastes related to agent production. IRA activities at this site involved placing a soil cover over the entire site.

The basins are characterized by soil/sludge mixtures to a depth of 10 feet with high pH levels and the potential presence of agent. COCs in the soil/sludge exceeding human health criteria include primarily pesticides, but arsenic and mercury contamination is also present.

In October 2005 a ROD amendment changed the remedial action from excavation and landfill to containment in place with a slurry wall and RCRA equivalent cover.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
IRA	198809	199310
RD	199606	199612
RA(C)	200409	201109
LTM	201202	204202

RC: 201109

CLEANUP STRATEGY

Two monitoring wells may be closed or protected. Install groundwater barrier wall around the basins, placement of groundwater extraction wells for dewatering within the basins, and piping to Basin A Neck treatment system. Construct a RCRA equivalent cover and revegetate.

LTM will include cover inspection and maintenance, groundwater monitoring, infiltration measurements, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

NCSA-1G (PAGE 1 OF 2)

SECTION 36 BALANCE OF AREAS SOIL REMEDiation

SITE DESCRIPTION

Section 36 Balance of Areas Soil Remediation Project includes the Section 36 Balance of Areas Medium Subgroup, as described in the DAA, as well as sites within the Chemical Sewers, Ditches/ Drainage Areas, and Surficial Soil Medium Groups that are also located in Section 36.

Section 36 Balance of Areas is a subgroup within the Undifferentiated Medium Group, and contains soil posing potential risk to biota and human health. This site does not have unique site-type characteristics or contamination patterns. COCs in the soil exceeding acceptable human health risk levels include pesticides and chloroacetic acid to a depth of 10 feet.

Sections of both the North Plants and South Plants chemical sewer lines located within Section 36 will be remediated under this project. This is part of the chemical sewer system that served the manufacturing areas in South Plants and North Plants. Release of contaminants was caused by spillage or leakage from broken pipes or faulty joints and manholes in the sewer lines. The COCs present that exceed acceptable human health risk levels include pesticides, chloroacetic acid, and VOCs. The depth of the sewer lines ranges from approximately 6 to 8 feet.

The Ditches/Drainage Area sites have varied disposal and release histories. They were primarily used to convey surface water from other sites so they sporadically contained water. The primary COCs are pesticides. Detections of pesticides, as well as detections of arsenic and mercury, are below the Certified Reporting Limits, the majority of the samples collected, posing a potential risk to biota. The majority of contaminants were detected in the 0 to 1-foot depth interval.

Surficial Soil sites contain soil that was essentially contaminated by windblown dust and pose potential risks to biota and surficial contamination. Sampling was typically limited to the uppermost 2 inches of soil. Results indicate the primary COCs to be pesticides.

In FY04, the contaminated soil and MEC debris were removed, and the monitoring wells were closed or protected as required. Some MEC debris was able to be transported before detonation. The excavated soil exceeding acceptable human health risk levels was disposed of in the HWL and soil exceeding biota criteria was disposed of in Basin A.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199609	199612
RA(C)	200304	200909
LTM	200910	203909

RC: 200909

NCSA-1G (PAGE 2 OF 2)

SECTION 36 BALANCE OF AREAS SOIL REMEDATION

CLEANUP STRATEGY

Additional drainage will be constructed at the site. Within the Section 36 Balance of Areas Medium Subgroup sites, a 2-foot-thick soil cover will be placed over the former biota exceedance area. Vegetation will be established over the disturbed remediation and borrow areas. Completion of this project is dependent upon the construction of RCRA equivalent covers in the Section 36 area.

LTM will include cover maintenance, 5-year reviews, and groundwater monitoring.

This site will be retained by the Army and LTM will go on indefinitely.

NCSA-3

SECONDARY BASINS – FORMER BASIN F

SITE DESCRIPTION

This project addresses principle threat soil within the Surficial Soil - Former Basin F, a surface impoundment/lagoon, which is a subgroup of the Basin F Medium Group. This site consists of the former basin area including the area beneath the Basin F Wastepile. Basin F received wastewater through the chemical sewer system and the site contains elevated levels of salts. The Basin F IRA was conducted in 1993-1995, to remove Basin F liquid and sludge, the asphalt liner of the basin, and highly contaminated soil from beneath the liner. The soil, sludge, and liner material were placed in the Basin F Wastepile during the IRA. The existing site contains contaminated soil that was not removed during the IRA. A 2 to 5-foot-thick soil cover (average thickness of 3 feet) and up to 10 feet of gradefill was placed over the former Basin F following construction of the wastepile. The soil cover was revegetated at the conclusion of the IRA.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
IRA	199301	199507
RD	199606	199612
RA(C)	200201	200906
LTM	201010	204010

RC: 200906

The Former Basin F contains soil contaminated by wastewater that infiltrated during Basin F operations. The human health criteria are exceeded by average and maximum concentrations of pesticides and chloroacetic acid. Concentrations of aldrin and dieldrin also exceed the principle threat criteria in specific areas. The human health COCs were found from 0 to 10 feet below ground surface, but were primarily detected in the 0 to 5-foot depth interval. Residual contamination exists from below 10 feet to the water table (approximately 40 feet).

In October 2005 a ROD amendment changed the remedial action from solidification to excavation and placement in the ELF.

CLEANUP STRATEGY

Excavate Principle Threat Soils and place in ELF. The residual contamination that exists will remain in place and be covered with a RCRA equivalent cover performed under NCSA-4B.

Funds for the placement of waste and cover construction at ELF are partially programmed in this site. LTM will include cover inspection and maintenance, groundwater monitoring, infiltration measurements, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

NCSA-4B (PAGE 1 OF 2)

SECONDARY BASIN – BASIN F EXTERIOR

SITE DESCRIPTION

This project includes Former Basin F and Basin F Exterior. Other sites within the Sand Creek Lateral, Secondary Basins, and Surficial Soil Medium Groups/Subgroups that are located in the project area will also be remediated under this project. Soils exceeding human health risk levels were removed in January 2002.

The Sand Creek Lateral, a subgroup within the Buried Sediments/ Ditches Medium Group, is an active drainage ditch that enters RMA at the southern boundary, travels north through Sections 2, 26 and 35, and joins First Creek in Section 25. It serves as part of the RMA storm water management system. Flows are intermittent and include runoff from the South Plants Central Processing Area during storm events and snowmelt. The primary COCs at this site are pesticides. Portions of this site contain soil that poses potential risks to biota.

Secondary Basins is a subgroup within the Secondary Basins Medium Group. COCs detected in the soil above the human health criteria include pesticides to a depth ranging from 0 to 10 feet; the majority of contamination potentially poses risks to biota only.

Basin F Exterior is a large site adjacent to Former Basin F and is part of the Surficial Soil Medium Group. This site contains soil that was essentially contaminated by windblown dust and primarily poses potential risks to biota.

CLEANUP STRATEGY

Close or protect monitoring wells as required. Excavate contaminated soil and associated sewer line debris from the Chemical Sewer, Sand Creek Lateral, Surficial Soil, and Secondary Basins medium groups in Sections 23, 25 and 26. Dispose of human health exceedance soil and debris into the On-Post Hazardous Waste Landfill. Consolidate northern biota exceedance surface soil from Basin F Exterior into the Former Basin F. Contain the consolidated biota exceedance soil, and the remaining human health exceedance soil in Basin F by placing a RCRA-equivalent cover over the Former Basin F including the site of the former F Wastepile. Areas outside of Former Basin F will be backfilled with clean soil borrowed from other RMA areas and graded as necessary to provide adequate drainage and to control erosion over the excavation. Establish vegetation over the disturbed remediation and borrow areas.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides

MEDIA OF CONCERN:
Soil, Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199609	199612
RA(C)	200111	201104

RC: 201104

NCSA-4B (PAGE 2 OF 2)

SECONDARY BASIN – BASIN F EXTERIOR

LTM will include groundwater monitoring (30 years) and cover maintenance (funded under NCSA-3).

The Basin F site will be retained by the Army.

NCSA-8A

SEWER SYSTEMS – SANITARY SEWER TO STP SANITARY SEWER MANHOLE PLUGGING PROJECT – PHASE II

SITE DESCRIPTION

This project contains soil that was potentially contaminated by spillage or leakage from broken waste lines, faulty joints and manholes in the sewer lines. Contamination entered these sewer lines through inadvertent disposal of liquid wastes or conveyance of contaminated groundwater. The majority of sewer piping is vitrified clay, although some sections are steel or cast-iron pipe.

CLEANUP STRATEGY

Plug the void space inside approximately 100 remaining sanitary and process water sewer manholes with concrete or grout in Sections 34 and 35. Currently the remedy support buildings are located in these sections and serviced by this sewer system. The remediation objective is to prohibit access and eliminate the sewer system as a potential migration pathway for groundwater. Post aboveground warning signs indicating sewer locations every 1,000 feet.

This site will be transferred to USFWS in FY12, and LTM (sign maintenance) cost will be their responsibility.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, pesticides

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199606	199612
RA(C)	199709	201004

RC: 201004

NFU-MNP

STRUCTURE – NO FUTURE USE, MFG, NON-PROCESSING MISC RMA STRUCTURE DEMO & REMOVAL

SITE DESCRIPTION

This project encompasses structures and related items from all RMA areas other than the South Plants Structures and North Plants Structures. The structures were divided into three groups: Agent History Structures (site NFU-A), Significant Contamination History Structures (site NFU-MP), and Other Contamination History Structures (site NFU-MNP) NFU-MNP represents the buildings left on site that are administrative type structures.

Most of the structures have been removed.

CLEANUP STRATEGY

In most cases, floor slabs and foundations for the Other Contamination History and Significant Contamination History Structures will be left in place after demolition (unless contaminated soil is to be subsequently excavated from beneath the slabs or foundations). Floor slabs will be cracked or broken to prevent ponding of water. Foundations and basement excavations will be backfilled with clean soil borrowed from other RMA areas, and graded as necessary to provide adequate drainage and to control erosion.

Any remaining future use structures will be transferred to USFWS in FY12.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Metals

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199510
RD	199606	199612
RA(C)	199811	201109

RC: 201109

NPSA-6

AGENT TESTING – UNDERGROUND SPILL AREA NORTH PLANTS SOIL REMEDIATION

SITE DESCRIPTION

In FY04, the soil from the North Plants Medium Subgroup was excavated and disposed of in the on post Hazardous Waste Landfill. This soil contained arsenic exceeding acceptable human health risk levels. An Explanation of Significant Difference to remove the cover requirement was submitted to the regulators but has not been approved.

In FY04, diesel fuel was detected in the groundwater.

CLEANUP STRATEGY

A skimming system was proposed to remove the diesel fuel and has not been approved. Based on the size of the plume, the skimmer is expected to run ~2 years. Soil remediation will be completed in the remainder of the site through plowing and discing and revegetating.

This site will be transferred to USFWS in FY12.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Low

CONTAMINANTS OF CONCERN:
Diesel

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA	197601	198410
SI	197601	198410
RI	198401	198606
RD	199606	199612
RA(C)	200306	201104

RC: 201104

NW-A

NORTHWEST BOUNDARY CONTAINMENT SYSTEM

SITE DESCRIPTION

The Northwest Boundary Containment System, located in Sections 22 and 27, consists of extraction and recharge wells and trenches, a slurry wall, and a carbon adsorption for removal of organics.

Modifications for FY02 included completing the control system and well field flow modifications, to allow real-time monitoring of well flows, as well as connection to the boundary system's computer network allowing monitoring of the treatment plant from other on-site locations. No further modifications have occurred at this system.

CLEANUP STRATEGY

Operation of the Northwest Boundary Containment System continues within effluent parameters at approximately 1,000 gpm.

The groundwater treatment system will be operated until remedial objectives (ROD requirements) are met (cost assumes operation until ~2034 and refurbishing every 10 years). Five years of LTM is expected after the treatment system is turned off.

Future costs for NW-SC are consolidated under this site due to both sites being treated at one treatment plant.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA	197601	198410
SI	197601	198410
RI	198401	199510
IRA	198705	199307
RD	198201	199606
RA(C)	198301	199612
RA(O)	199612	203409
LTM	203410	203909

RIP: 199612

RC: 203409

NW-SC NORTHWEST/SAND CREEK LATERAL PLUMES NORTHWEST BOUNDARY CONTAINMENT SYSTEM

SITE DESCRIPTION

The Northwest Boundary Containment System, located in Sections 22 and 27, consists of extraction and recharge wells and trenches, a slurry wall, and a carbon adsorption for removal of organics.

Modifications for FY02 included completing the control system and well field flow modifications, to allow real-time monitoring of well flows, as well as connection to the boundary system's computer network allowing monitoring of the treatment plant from other on-site locations. No further modifications have occurred at this system.

CLEANUP STRATEGY

Operation of the Northwest Boundary Containment System continues in compliance with effluent parameters at approximately 1,000 gpm.

Future costs for this site are included under NW-A.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA	197601	198410
SI	197601	198410
RI	198401	199510
RD	198201	199606
RA(C)	198301	199612
RA(O)	199612	200609

RIP: 199612

RC: 200609

OU-N NORTHERN PATHWAY OFF POST GROUNDWATER INTERCEPT AND TREATMENT SYSTEM

SITE DESCRIPTION

The Off-Post Groundwater Intercept and Treatment System was designed to extract and treat contaminated alluvial groundwater from the Northern Pathways downgradient of the NBCS, and return treated water to the alluvial aquifer. The system consists of a network of upgradient extraction wells and an activated carbon adsorption treatment system for the removal of VOCs, SVOCs and DIMP. Effluent is discharged through a network of recharge wells.

Four extraction wells were turned off in FY05 after meeting remedial goals of the ROD. Eight extraction wells remain in operation. Currently, these extraction wells are being relocated closer to the installation boundary to enhance capture. This will also facilitate private party land development.

CLEANUP STRATEGY

Operation of the Off-Post System continues in compliance with effluent parameters at approximately 200 gpm.

The groundwater treatment system will be operated until remedial objectives (ROD requirements) are met (cost assumes operation until ~2024 and refurbishing every 10 years). LTM includes groundwater monitoring and a five year review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, DIMP

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199512
IRA	198705	199310
RD	198910	199606
RA(C)	199310	199612
RA(O)	199612	202409
LTM	202410	202909

RIP: 199612

RC: 202409

OU-NW FIRST CREEK OFF POST GROUNDWATER INTERCEPT AND TREATMENT SYSTEM

SITE DESCRIPTION

The Off-Post Groundwater Intercept and Treatment System was designed to extract and treat contaminated alluvial groundwater from the First Creek downgradient of the NBCS, and return treated water to the alluvial aquifer. The system consists of a network of upgradient extraction wells, an activated carbon adsorption treatment system for the removal of VOCs, SVOCs and DIMP and a network of recharge trenches.

Two wells were turned off in FY04. Three wells remain in operation.

CLEANUP STRATEGY

Operation of the Off-Post System continues in compliance with effluent parameters at approximately 200 gpm.

The groundwater treatment system will be operated until remedial objectives (ROD requirements) are met (cost assumes operation until ~2030 and refurbishing every 10 years). LTM includes groundwater monitoring and a five year review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: High

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, DIMP

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199512
RD	198901	199606
RA(C)	199101	199612
RA(O)	199612	203009
LTM	203010	203509

RIP: 199612

RC: 203009

SOUTH PLANTS BALANCE CENTRAL PROCESSING

SOUTH PLANTS BALANCE OF AREAS AND CENTRAL PROCESSING AREA SOIL REMEDIATION

SITE DESCRIPTION

The Central Processing Project and the Balance of Areas Project were combined (31 sites*). This site was the main processing area within the South Plants and has long term management requirements. Soil contamination resulted from the manufacture, storage, and disposal of chemicals and from the demilitarization of agent-filled ordnance. The area exhibited disturbed vegetation. COCs in the soil that exceed the human health and principle threat criteria include volatiles, pesticides, and arsenic to a depth of 10 feet. The soil in this area potentially contains agent, however none has been detected.

All monitoring wells were closed or protected as required. The principle threat and human health exceedance soil in Section 1 was excavated up to a depth of 5 feet. Soil that was potentially agent-contaminated was screened by headspace sampling for agent and treated, if necessary and then excavated. All excavated principle threat and human health exceedance soil was disposed of into the On-Post HWL. The biota exceedance soil from the South Plants Balance of Areas was consolidated for excavation backfill and pre-cover gradefill in the South Plants Central Processing Area. This area was graded as necessary to provide adequate drainage and to control erosion. In most cases, floor slabs and foundations for other Contamination History and Significant Contamination History Structures were left in place after demolition (unless contaminated soil is to be subsequently excavated from beneath the slab or foundations).

CLEANUP STRATEGY

Any remaining contamination will be closed and contained by placing of a RCRA equivalent cover over the entire South Plants Central Processing Area including the M-1 and Hex Pit areas. Vegetation will be re-established over the disturbed remediation and borrow areas. The remaining floor slabs will be cracked or broken to reduce ponding of water. Foundation and basement excavations with biota exceedance soils from the South Plants Balance of Areas Soil Remediation project will be backfilled and graded as necessary to provide adequate drainage and control erosion.

LTM will include cover inspection and maintenance, groundwater monitoring, infiltration measurements, and periodic evaluation of vegetation. This site is subject to five year reviews, will be retained by the Army, and LTM will go on indefinitely.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Metals, Pesticides

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199606	199612
RA(C)	200012	201103
LTM	201104	204109

RC: 201103

SPSA-1A (PAGE 2 OF 2)

SOUTH PLANTS BALANCE CENTRAL PROCESSING

SOUTH PLANTS BALANCE OF AREAS AND CENTRAL PROCESSING AREA SOIL REMEDIATION

*Response Complete for sites SPSA-1b, SPSA-1c, SPSA-1d, SPSA-1g, SPSA-2a, SPSA-2b, SPSA-2C, SPSA-2d, SPSA-2e, SPSA-3a, SPSA-3b, SPSA-3c, SPSA-3d, SPSA-3e, SPSA-4a, SPSA-4b, SPSA-5a, SPSA-5b, SPSA-6, SPSA-7a, SPSA-7b, SPSA-7c, SPSA-8a, SPSA-8b, SPSA-8c, SPSA-9a, SPSA-9b, SPSA-10, SPSA-12a, and SPSA-12b however the final CCR has not been signed by the regulators.

SWP (PAGE 1 OF 2)

SITE WIDE PROGRAM

SITE DESCRIPTION

This site is used to plan and program funding for all RMA non AEDB-R specific remediation support and oversight programs that require the use of ER, A funds and aid in the completion of the remedy. Previously, these site wide functions that are now covered under the AEDB-R site SWP were allocated to individual sites based on estimated site cost. This presented difficulties when preparing Cost-to-Complete data and communicating the actual operational costs associated with RMA's restoration program.

Site-Wide Programs (SWP) include

- RCRA Cap Equivalency studies
- Borrow Area Operations
- Site-Wide Biota Monitoring – BAS
- Site-Wide Air Monitoring – Air Pathways Analysis
- Medical Monitoring Program
- Traffic (Haul Road) Operations Management
- MEC Oversight
- Permanent Re-vegetation/Mitigation Program
- Site-Wide Well Abandonment
- Remediation Venture Office – Program Management Contractor Oversight
 - Cost of Regulatory Oversight
 - Information Management / Administrative Record
 - On-Site Laboratory Operations
 - Logistics / Infrastructure
 - Utilities
 - Waste Management
 - Remedy Execution Oversight
 - USFWS Remedy Support
 - QA / ROD Compliance
 - Contracting
 - Project Controls
 - Health and Safety
 - Fire and Police
 - Public Outreach
- Land Transfers/Partial Deletions

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Not Evaluated

CONTAMINANTS OF CONCERN:
None

MEDIA OF CONCERN: None

PHASES	Start	End
PA	200502.....	200502
LTM.....	200503.....	203709

RC: 200503

SWP (PAGE 2 OF 2) SITE WIDE PROGRAM

CLEANUP STRATEGY

SWP will significantly ramp down at RIP. Some costs contained within this site will continue throughout the RA(O) and LTM phase.

W-MP WESTERN/MOTOR POOL PLUME

SITE DESCRIPTION

This plume was formerly treated by the Irondale Containment System which was dismantled in 2003. The remaining VOC contamination is treated using skid mounted adsorber units which were installed in FY01.

The two wells in the Railyard continue to operate at approximately 120 gallons per minute (gpm).

Contaminant levels are approaching remedial objectives.

CLEANUP STRATEGY

The skid mounted adsorber units will be operated until remedial objectives in the ROD are met (expected in 2012). LTM will include groundwater monitoring and a five year review.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs

MEDIA OF CONCERN:
Groundwater

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199510
IRA	198809	199204
RD	199003	199606
RA(C)	199101	199609
RA(O)	199204	201209
LTM	201210	201709

RIP: 199609

RC: 201209

SEWER SYSTEM – SANITARY SEWER SEDIMENTS SANITARY SEWER MANHOLE PLUGGING PROJECT – PHASE II

SITE DESCRIPTION

This project contains soil that was potentially contaminated by spillage or leakage from broken waste lines, faulty joints and manholes in the sewer lines. Contamination entered these sewer lines through inadvertent disposal of liquid wastes or conveyance of contaminated groundwater. The majority of sewer piping is vitrified clay, although some sections are steel or cast-iron pipe.

CLEANUP STRATEGY

Plug the void space inside approximately 100 remaining sanitary and process water sewer manholes with concrete or grout in Sections 3 and 4.

The remediation objective is to prohibit access and eliminate the sewer system as a potential migration pathway for groundwater. Currently the remedy support buildings are located in these sections and serviced by this sewer system. The remediation objective is to prohibit access and eliminate the sewer system as a potential migration pathway for groundwater. Post aboveground warning signs indicating sewer locations every 1,000 feet.

This site will be transferred to USFWS in FY12.

STATUS

REGULATORY DRIVER: CERCLA

RRSE: Medium

CONTAMINANTS OF CONCERN:
VOCs, SVOCs, Pesticides

MEDIA OF CONCERN: Soil

PHASES	Start	End
PA.....	197601	198410
SI.....	197601	198410
RI.....	198401	199606
RD	199609	199612
RA(C)	200810	201004

RC: 201004

IRP No Further Action Sites Summary

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
A-PE	Agent Process Equipment Removal	Interim Response Action Summary Report, - All Required Cleanup Completed	199712
AS	Asbestos Removal	Interim Response Action Summary Report Asbestos Remediation, - All Required Cleanup Completed	199712
AT	Above Ground Storage Tanks IRA	CCR Chemical Process Related Activities Free Standing Tank Removal, - All Required Cleanup Completed	199606
AW	Abandoned Wells Closure IRA	Interim Response Action Summary Report Closure of Abandoned Wells at RMA, - All Required Cleanup Completed	199606
B1727	B1727 Sump IRA-Wastewater	Interim Response Action Summary Report Building 1727 Sump Liquid, - All Required Cleanup Completed	199606
CSA-1B	Undifferentiated- Section 36 Balance	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
CSA-1D	Sanitary Landfills-San Landfill/Incinerator 834	Section 36 Existing Sanitary Landfills Remediation CCR, - All Required Cleanup Completed	200307
CSA-2A	Undifferentiated-Section 36 Balance	Burial Trenches Soil CCR, - All Required Cleanup Completed	200209
CSA-2B	Ditches/Drainage-Section 36 Metal Debris	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
CSA-2C	Munitions Testing-Incend Munitions TS	Munitions Testing Soil Remediation CCR, - All Required Cleanup Completed	200009
CSA-2D	Munitions Testing-NN3601 Incinerator Contamination	Section 36 Existing Sanitary Landfills Remediation CCR, - All Required Cleanup Completed	200307
CSA-3	Sewer Systems - Chem/Basins A To F	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
CSA-4	Undifferentiated-Section 36 Balance	Part of Site NCSA-1G remediation, All Required Cleanup Completed	200209
ESA-1A	Munitions Testing-Surface Burn 1	Munitions Testing Soil Remediation CCR, All Required Cleanup Completed	200009
ESA-1B	Munitions Testing-Surface Burn 2	Munitions Testing Soil Remediation CCR, All Required Cleanup Completed	200009
ESA-1C	Munitions Testing-Surface Burn 3	Munitions Testing Soil Remediation CCR, All Required Cleanup Completed	200009
ESA-1D	Munitions Testing - Surface Burn 4	Munitions Testing Soil Remediation CCR, All Required Cleanup Completed	200009

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
ESA-2A	Undifferentiated-Burial Trenches/Burn Pit	Burial Trenches Soil Remediation Project CCR, All Required Cleanup Completed	200009
ESA-2B	Sanitary Landfills-Sanitary Landfill	ROD – 199606, All Required Cleanup Completed	200408
ESA-2C	Undifferentiated-UXO Open Trenches	Burial Trenches soil CCR Part II, All Required Cleanup Completed	200009
ESA-3A	Agent Testing-Storage Yard	CCR Toxic Storage Yards Soil Remediation Project, All Required Cleanup Completed	199909
ESA-3B	Agent Testing-Old TSY	CCR Toxic Storage Yards Soil Remediation Project, All Required Cleanup Completed	199909
ESA-3C	Agent Testing-New TSY	ROD – 199606, -Study Complete NFA	199906
ESA-3D	Agent Testing-Toxic Yard Plots	ROD – 199606, - Study Complete NFA	199606
ESA-3E	Agent Testing-Demil Pad	ROD – 199606, Study Complete NFA	199606
ESA-3F	Agent Testing - RR/Dock Spill Site	ROD – 199606, Study Complete NFA	199606
ESA-3G	Agent Testing - Drum Storage/Spill Site	CCR Toxic Storage Yards Soil Remediation Project, - All Required Cleanup Completed	199909
ESA-3H	Agent Testing - Storage Area/Spill Site	ROD – 199606, Study Complete NFA	199606
ESA-3I	Agent Testing - Toxic Storage Plots ditch	ROD – 199606, Study Complete NFA	199606
ESA-3J	Toxic Storage Yd. - Fence Spraying	ROD – 199606, Study Complete NFA	199510
ESA-3K	Trash Pit - So. Of Plot 8	ROD – 199606, Study Complete NFA	199510
ESA-4A	Munitions Testing - Impact/UXO	ROD – 199606, - All Required Cleanup Completed	200009
ESA-4B	Munitions Testing – Soil Remediation	Munitions Testing “Soil Remediation, - All Required Cleanup Completed	200009
ESA-4C	Trench/Moved-Unknown Use/Scrap Metal	ROD – 199606, Study Complete NFA	200009
ESA-5	Undifferentiated - FUZE Removal Area	ROD – 199606, Study Complete NFA	199510
ESA-6A	TC Storage Area - Heavy Metals Detection	ROD – 199606, Study Complete NFA	199510
ESA-6B	Undifferentiated-Trench/Detection F2CA	ROD – 199606, Study Complete NFA	199510
ESA-6C	Buried Sediments/Ditches - As Detection	ROD – 199606, Study Complete NFA	199510
ESA-6D	Hexachlorobenzene Detection	ROD – 199606, Study Complete NFA	199510

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
FD-DUST	Fugitive Dust IRA	Interim Response Action Summary Report Fugitive Dust Control, - All Required Cleanup Completed	199510
NA-PE	Non-Agent Process Equipment Removal	Interim Response Action Final Report, - All Required Cleanup Completed	199606
NCSA-1C	Buried	Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200209
NCSA-1D	Ditches/Drainage - Runoff Storage	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
NCSA-1E	Burn Site-So. Plots. Operations	Part of Site NCSA-1A remediation, - All Required Cleanup Completed	200209
NCSA-1F	Buried Sediment/Ditches-So. Plots Ditches	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
NCSA-2A	Secondary Basins-Basin C	Secondary Basins Soil Remediation CCR, - All Required Cleanup Completed	200303
NCSA-2B	Secondary Basins-Basin D	Secondary Basins Soil Remediation CCR, - All Required Cleanup Completed	200209
NCSA-2C	Secondary Basins-Basin E	ROD – 199606, Study Complete NFA	199606
NCSA-2D	Ditches/Drainage-B To D/B To C Ditches	Secondary Basins Soil Remediation CCR, - All Required Cleanup Completed	200209
NCSA-4A	Secondary Basins-Deep Well	Part of Site NCSA-4B remediation, - All Required Cleanup Completed	200209
NCSA-5A	Secondary Basins-Basin B	Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200303
NCSA-5B	Buried Sediments/Ditches-A,B,C,D Ditches	Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200209
NCSA-5C	Buried Sediments/Ditches-Sand Ck. Lateral	Secondary Basins Soil Remediation CCR & Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200209
NCSA-5D	Ditches/Drainage-Surface Canal/Basin A	Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200209
NCSA-6A	Sewer Systems-So. Plos/Basin F (Chem.)	Section 35 Soil Remediation Project CCR, - All Required Cleanup Completed	200010
NCSA-6B	Sewer Systems-No. Plots/Basin F (Chem)	Part of Site NCSA-1G remediation, - All Required Cleanup Completed	200209
NCSA-7	LAKE SEDIMENTS-NORTH Boundary BOG	ROD – 199606, Study Complete NFA	199510
NCSA-8B	Ditches/Drainage-STP Area	Miscellaneous Northern Tier Soil Remediation Project CCR, - All Required Cleanup Completed	199910

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
NCSA-8C	Ditches/Drainage-HG Detection/Lift Station #2	ROD – 199606, Study Complete NFA	199510
NCSA-9A	Investigated Area-DIMP Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9B	Investigated Area-CD Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9C	Investigated Area-CD Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9D	Investigated Area-CD Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9E	Investigated Area-Zinc Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9F	Investigated Area, ZN/CU Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9G	Investigated Area-Methylene Chloride Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9H	Investigated Area-CD Detection	ROD – 199606, Study Complete NFA	199510
MVDS-9I	Investigated Area – Butoxyethanol Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9J	Investigated Area-HG Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9K	Investigated-Trichloropropene Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9L	Investigated Area-AS Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9M	Investigated Area-ZN Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9N	Investigated Area-Trichloropropene Detec	ROD – 199606, Study Complete NFA	199510
NCSA-9O	Investigated Area-AS Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9P	Investigated Area-AS,HG,CU,ZN Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9Q	Investigated Area-HQ Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9R	Investigated Area-CD Detection	ROD – 199606, Study Complete NFA	199510
NCSA-9S	Investigated Area-HG Detection	ROD – 199606, Study Complete NFA	199510
NFU-A	Structures - No Future Use, Agent	South Plants Structure Demolitions & Removal Project Phase I CCR, - All Required Cleanup Completed	200209
NFU-MP	Structures - No Future Use, Mfg, Process	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209
NPSA-1	Sewer Systems - Chemical Sewers	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
NPSA-2	Tank Farm 1403 Area	ROD – 199606, - All Required Cleanup Completed	199510
NPSA-3	Agent Testing-GB Manufacturing Area	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209
NPSA-4	Buried Sed/Ditches- Fuze & Detonator Mag.	Miscellaneous Northern Tier Soil Remediation Project CCR, - All Required Cleanup Completed	199910
NPSA-5	Agent Testing-Special Weapons Plant	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209
NPSA-7	Surface Spill Area	ROD – 199606, Study Complete NFA	199606
NPSA-8A	Surface Drainage Area	ROD – 199606, Study Complete NFA	199510
NPSA-8B	Surface Drainage Area	ROD – 199606, Study Complete NFA	199606
NPSA-8C	Surface Drainage Area	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209
NPSA-9A	Investigated Area-Aromatic Detection	ROD – 199606, Study Complete NFA	199510
NPSA-9B	Investigated Area-Chromium Detection	ROD – 199606, Study Complete NFA	199510
NPSA-9C	Investigated Area-Zinc Detection	ROD – 199606, Study Complete NFA	199510
NPSA-9D	Investigated Area-Benzene/Zn Detection	ROD – 199606, Study Complete NFA	199510
NPSA-9E	Investigated Area-Detection Along Railroad Track	ROD – 199606, Study Complete NFA	199510
NPSA-9F	Investigated Area-Arsenic Detection	North Plants Structure Demolitions & Removal & Destruction of Equipments in the GB, - All Required Cleanup Completed	200209
PCB-STRUC.	PCB Removal	Interim Response Action Summary Report Element Two PCB's Final, - All Required Cleanup Completed	199606
S-SPN	South Plants/So. Plants North Plume	ROD – 199606, - All Required Cleanup Completed	199606
S-SPSE	South Plants/So. Plants Se Plume	ROD – 199606, - All Required Cleanup Completed	199510
SANSEWER	Sanitary Sewer Ira	RMA Interim Response Action Summary Report Sanitary Sewers, - All Required Cleanup Completed	199606
SP-SPSW	South Plants/So. Plants Sw Plume	ROD – 199606, Study Complete NFA	199510

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SP-STF	South Plants – South Tank Farm	Interim Response Action Summary Report South Tank Farm Plume Final	199606
SPSA-10	Sewer Systems-Chem. Sewer	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-11	Sewer Systems-Sanitary	Sanitary and Chemical Sewer Plugging Project CCR, - All Required Cleanup Completed	199802
SPSA-12A	South Tanks Balance-Aeration Basin	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - Solidification/Stabilization	200209
SPSA-12B	South Plants Balance-Sediment Pond	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - Solidification/Stabilization	200209
SPSA-12C	Sewer Systems-Process Water	Sanitary and Chemical Sewer Plugging Project CCR, - Solidification/Stabilization	199802
SPSA-1B	South Plants Balance Unknown Mounds	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-1C	South Plants Balance-Lime Pits	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-1D	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-1E	Buried M1 Pits	ROD – 199606, - All Required Cleanup Completed	200109
SPSA-1F	Disposal Trenches-Hexa Barrels	Hex Pit Soil Remediation (Redesign) CCR, - All Required Cleanup Completed	200406
SPSA-1G	South Plants Balance-Miscellaneous	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-2A	South Plants-So. Tank Farm	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-2B	South Plants-Open Storage Area	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SPSA-2C	South Plants Balance-Salvage Yard	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-2D	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-3A	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-3B	South Plants Balance-Storage Pad	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-3C	South Plants Balance-Tank Storage Area	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-3D	South Plants Balance-Tank Storage Area	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-3E	South Plants Balance-Miscellaneous	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-4A	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-4B	South Plants Balance-Miscellaneous	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-5A	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-5B	South Tanks Balance-Miscellaneous	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-6	Hydrazine Fuel Blending/Storage Facility	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SPSA-7A	Balance SPSA/Surface Contamination	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-7B	South Plants Balance-Depression	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-7C	South Plants Balance-Miscell/Surf. Contm	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-8A	South Plants Balance-Sanitary Landfill	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-8B	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-8C	Spsa8 Balance/Surface Contamination	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200209
SPSA-9A	South Plants-Drainage Ditches	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SPSA-9B	South Plants Balance-Miscell/Surf. Contamination	South Plants Balance of Areas & Central Processing Area Soil Remediation Phase I CCR, - All Required Cleanup Completed	200109
SSA-1A	E. Upper Derby Lake	ROD – 199606, Study Complete NFA	199510
SSA-1B	Lake Sediments - Upper Derby Lake	ROD – 199606, - All Required Cleanup Completed	199909
SSA-1C	Lake Sediments - Lower Derby Lake	ROD – 199606, - All Required Cleanup Completed	199909
SSA-1D	ROD/Gun Club Pond	ROD – 199606, Study Complete NFA	199510
SSA-1E	Lake Sediments - Lake Ladora	ROD – 199606, Study Complete NFA	199510
SSA-1F	Lake Mary	ROD – 199606, Study Complete NFA	199510
SSA-2A	Ditches/Drainage - Process Ditch	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912
SSA-2B	Buried Sediments/Ditches-Sand Ck. Lateral	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
SSA-2C	Ditches/Drainage-Lakes Overflow Basin	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912
SSA-3A	Buried Sediments/Ditches-Lake Ladora	ROD – 199606, Study Complete NFA	199606
SSA-3B	Buried Sediments/Ditches-Derby Lakes	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912
SSA-4	Sanitary Landfills-Trash Dump	CCR Existing Sanitary Landfill Remediation Section 1 & Miscellaneous Northern Tier Soil Remediation Project CCR, - All Required Cleanup Completed	200002
SSA-5A	Investigated Area - DBCP Detection	ROD – 199606, Study Complete NFA	199510
SSA-5B	Lake Sediments-Havana/Peoria Ponds/Ditches	ROD – 199606, Study Complete NFA	199510
SSA-5C	Investigated Area - PB Detection	ROD – 199606, Study Complete NFA	199510
SSA-5D	Investigated Area - PB Detection	ROD – 199606, Study Complete NFA	199510
SSA-5E	Investigated Area - UVALDA Ditch	ROD – 199606, Study Complete NFA	199510
UT-TANKS	Underground Storage Tanks	Interim Response Action Final Report, - All Required Cleanup Completed	199712
W-R	Western/Railyard Plume	Irondale Containment System Shut-down for the Motor Pool Extraction System CCR, - All Required Cleanup Completed	200308
W-W	Western/Western Plume	ROD – 199606, Study Complete NFA	199510
WSA-1A	Railyard-Pyrene/Fluosanthene Detection	ROD – 199606, Study Complete NFA	199510
WSA-1B	Railyard-Wood Preservative	ROD – 199606, Study Complete NFA	199510
WSA-1C	Railyard-Wood Preservative	ROD – 199606, Study Complete NFA	199510
WSA-1D	Railyard-Zinc Detection	ROD – 199606, Study Complete NFA	199510
WSA-1E	Railyard-DBCP Area	ROD – 199606, Study Complete NFA	199510
WSA-1F	Ditches-Railyard/Pesticide Detection	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912
WSA-1G	Railyard-Mercury Detection	ROD – 199606, Study Complete NFA	199510
WSA-2	Sanitary Landfills-West Landfill	CCR Existing Sanitary Landfill Remediation Section 4, - All Required Cleanup Completed	200002

AEDB-R #	Site Title	Documentation/Reason for NFA	NFA Date
WSA-3A	East Landfill-Solvent/Metals Detection	ROD – 199606, Study Complete NFA	199510
WSA-3B	East Landfill-Disposal Pit	ROD – 199606, Study Complete NFA	199510
WSA-3C	Sanitary Landfills-East Landfill/Main Area	CCR Existing Sanitary Landfill Remediation Section 4, - All Required Cleanup Completed	200002
WSA-3D	East Landfill-Methylisobutly Ketone Detection.	ROD – 199606, Study Complete NFA	199510
WSA-4A	Open Storage Yd.- Methylcyclohexane Detection	ROD – 199606, Study Complete NFA	199510
WSA-4B	Open Storage Yard-Main Area	ROD – 199606, Study Complete NFA	199510
WSA-5A	Sanitary Landfills-N. Landfill Trench	CCR Existing Sanitary Landfill Remediation Section 4, - All Required Cleanup Completed	200002
WSA-5B	North Landfill Burn Pit	ROD – 199606, Study Complete NFA	199510
WSA-5C	Sanitary Landfills-N. Landfill Trench	CCR Existing Sanitary Landfill Remediation Section 4, - All Required Cleanup Completed	200002
WSA-5D	Sanitary Landfills-N. Landfill Trenches	CCR Existing Sanitary Landfill Remediation Section 4, - All Required Cleanup Completed	200002
WSA-6A	Buried Sed/Ditches-Motor Pool Ditch	Miscellaneous Southern Tier Soil Remediation CCR, - All Required Cleanup Completed	199912
WSA-6B	Motor Pool-Tanks Area	ROD – 199606, Study Complete NFA	199510
WSA-6C	Motor Pool-Roundhouse Area (Bldg 631)	ROD – 199606, Study Complete NFA	199510
WSA-6D	Motor Pool-Drainage Area	ROD – 199606, Study Complete NFA	199510
WSA-6E	Motor Pool-Culvert Outfall	ROD – 199606, Study Complete NFA	199510
WSA-7B	Sanitary Sewer-Overflow Area	ROD – 199606, Study Complete NFA	199510
WSA-8A	Investigated Area-Copper Detection	ROD – 199606, Study Complete NFA	199510
WSA-8B	Investigated Area-Zinc Detection	ROD – 199606, Study Complete NFA	199510
WSA-8C	Investigated Area-Salvage Area TCE Detection	ROD – 199606, Study Complete NFA	199510
WSA-8D	Investigated Area-Phosphoric Acid	ROD – 199606, Study Complete NFA	199510
WSA-8E	Investigated Area-Phosphoric Acid Detection	ROD – 199606, Study Complete NFA	199510
WSA-8F	Investigated Area-Methynaphthalene Detection	ROD – 199606, Study Complete NFA	199510

Initiation of IRP: 1975

Past Phase Completion Milestones

1984

PA/SI (On Post) 1984

1988

IRA – North Boundary Trenches, Dec 88

1989

IRA - Army & USEPA signed FFA, FY89

IRA - Basin F Removal, May 89

IRA - Bldg 1727 Sump Liquid, Nov 89

RI (Off Post) Jan 89

1990

IRA - Abandoned Well Closure, Feb 90

IRA – Basin A Neck GW Intercept/Treatment System, Jul 90

IRA – North of Basin F GW Intercept/Treatment System, Sep 90

IRA - North Boundary Improvements, Dec 90

1991

IRA - Hot Spots - RR Classification Yard, Jul 91

IRA - Hot Spots - Shell Section 36 Trenches, Dec 91

1992

RI (On-Post), Jan 92

RI Addendum (Off-Post), Mar 92

IRA - Hot Spots - Motor Pool, Apr 92

IRA – Hydrazine Facility, Sep 92

IRA - Sanitary Sewer, Sep 92

EA/FS (Off-Post), Dec 92

FS-DSA (On-Post), Dec 92

1993

Proposed Plan (Off-Post), Mar 93

IRA - CERCLA Liquid Waste, Feb 93

IRA - NW Boundary Improvements, Jul 93

IRA - Hot Spots - M-1 Basins, Sep 93

IRA - Hot Spots - Lime Basins, Oct 93

1994

IRA – GW Intercept/Treatment System N. of RMA, Feb 94

IEA/RC (On-Post), Jul 94

IRA – Fugitive Dust Control (4th phase), Aug 94

1995

IRA - Basin F Liquids (SQI) (NCSA-3), Jun 95
FS - DAA Report, (On-Post), Oct 95
Final ROD (Off-Post), Dec 95

1996

IRA - Army & Shell signed oversight partnership, 1996
IRA - PCB (PCB-STRUC), May 96
Final ROD (On-Post), Jun 96
Remedial Design (Off-Post), Jul 96
IRA – Chemical Process - Agent/Treaty Areas (A-PE), Dec 96
IRA – Chemical Process - Non-Agent Areas (NFU-MP), Dec 96
IRA - Chemical Process - Underground Tanks (UT-TANKS), Dec 96

1997

Remedial Design (On-Post), 1997

1998

Remedial Action (Off-Post), Sep 98

2000

IRA - RA (structures) completed, FY00

2001

First 5-year review report completed (On-Post), FY01
First 5-year review report completed (Off-Post), FY01

2003

USEPA deleted 957 acres from NPL in FY03

2004

Army transferred 4,957 acres to USFWS, and 126 acres to local governments in FY04.

2005

Army transferred 63 acres to US Postal Service

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates:

None scheduled

Projected Construction Completion Date of IRP and Removal from NPL:

- Partial deletion from NPL of 929 acres occurred in FY03, and 5,055 acres in FY04
- Another partial deletion from NPL of surface area is scheduled for FY06 consisting of ~ 7,000 acres
- The surface area that will be transferred will be deleted from NPL by FY12.
- The surface area that is being retained by the Army will be deleted from NPL by FY12.

Schedule for Next Five-Year Review: 2010 (The second Five-Year Review is underway. RMA's first Five-Year Review was conducted in 2000. The current review includes extensive remediation project site inspections to help evaluate whether the cleanup identified in the on-post and off-post RODs continues to be protective of public health and the environment, and if it can be expected to remain protective after completion of the project. Currently, RMA is preparing comment responses to be coordinated with regulatory agencies. The Draft document for public review is anticipated to be issued by Spring of 2006.)

Estimated Completion Date of IRP (including LTM phase): indefinite

Rocky Mt Arsenal IRP Schedule

(Based on current funding constraints)

AEDB-R#	Site Title	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
A-A	Basin A	RA(O)									203709
CERCLA-LW	CERCLA Liquid WWT Plant	LTM									
CSA-1A	Disposal Trenches - Shell Trenches	RA									
		LTM									204109
CSA-1C	Disposal Trenches - Complex Army Trenches	RA									
		LTM									204109
ELF	Enhanced Haz Waste Landfill	LTM									204106
FWASTEPILE	Basin F Waste Pile	RA									
HWL	Hazardous Waste Landfill	LTM									203809
N-NP	North/North Plants Plume	RA(O)									203709
NCSA-1A	Basin A	RA									
		LTM									204109
NCSA-1B	Lime Basins	RA									
		LTM									204209
NCSA-1G	Section 36	RA									
		LTM									203909
NCSA-3	Secondary Basins - Former Basin F	RA									
		LTM									204010
NCSA-4B	Secondary Basins- Basin F Exterior	RA									
NCSA-8A	Sewer System - Sanitary Sewer to STP	RA									
NFU-MNP	Structure - No Further Use, MFG	RA									
NPSA-6	N. Plants Soils	RA									
NW-A	Northwest/ Basin A Neck Plume	RA(O)									203409
		LTM									203909
OU-N	North Plume Group - Off Post	RA(O)									202409
		LTM									202909

Rocky Mt Arsenal IRP Schedule

(Based on current funding constraints)

AEDB-R#	Site Title	Phase	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15+
OU-NW	Northwest Plume Group - Off Post	RA(O)									203009
		LTM									203509
SPSA-1A	South Plants Balance Central Processing	RA									
		LTM									204109
W-MP	Western/Motor Pool Plume	RA(O)									
		LTM									203709
WSA-7A	Sewer System - Sanitary Sewer Sediments	RA									

A Settlement Agreement exists between the Army and Shell Oil Company. The agreement, reached in 1987, defines the terms for sharing financial liability and collecting funds. Federal legislation created a Special Account for the receipt of such funds to be used exclusively for remedy implementation at RMA. Any funds received from Shell for remedy implementation are deposited into the Special Account. Cost claims are reconciled monthly; and deposits are made monthly into the Special Account.

Prior Years Funds

Total Funding up to FY04: \$1,341,323K

Year	Site Information	Expenditures	FY Total
FY05	Soil Excavation, Groundwater Monitoring, Landfill Construction, Water Treatment Operations, Site wide operations, ROD amendment, Property Deletion		\$80,141K

Total Prior Year Funding: \$1,421,464K

Current Year Funds

Year	Site Information	Expenditures	FY Total
FY 06			\$71,100K

Total Funding FY06: \$ 71,100K

Total Future Requirements: \$458,888K

Total IR Program Cost (from inception to completion of the IRP): \$1,951,452K

The Rocky Mountain Arsenal Restoration Advisory Board (RAB) was formed in 1994 as a result of a modification of the Technical Review Committee (TRC). The transition from TRC to RAB was a DOD requirement set forth in the spring of 1994. Currently there are ~25 members including alternates and regulators. The board continues to focus on providing input and comments to remediation designs as well as sharing information with other interested stakeholders. Over the past year, the board has provided input on issues pertaining to the triple-lined landfill, five-year review, a ROD amendment, and the Basin F Wastepile Project. The board has seen first hand the amount of progress at the site by taking its annual bus tour around the remediation projects. While issues remain concerning the On-post and Off-post Records of Decision, the program itself is moving ahead with continued public support, involvement and input. The RAB has been an excellent forum for continued discussions with stakeholders. Rocky Mountain Arsenal will continue to hold RAB meetings to provide a forum for community education, involvement and input on the remediation of the site as well as to keep the community informed about the progress of the remediation and its further transition into a National Wildlife Refuge.

The latest Community Relations Plan was published in 2004.

There has been no public interest for any future Technical Assistance for Public Participation (TAPP) requirements.